

IN THE CIRCUIT COURT OF THE CITY OF ST. LOUIS
STATE OF MISSOURI

JUDITH BECHTOLD, et al,	)	
	)	
Plaintiffs,	)	
	)	
vs.	)	Cause No. 922-00911
	)	
MONSANTO COMPANY, et al,	)	
	)	
Defendants.	)	

Deposition of R. EMMETT KELLY, M.D.
On behalf of Plaintiffs
May 31, 1994

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IN THE CIRCUIT COURT OF THE CITY OF ST. LOUIS
STATE OF MISSOURI

JUDITH BECHTOLD, et al,)
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 Plaintiffs,)
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 vs.)
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MONSANTO COMPANY, et al,)
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 Defendants.)

Cause No. 922-00911

DEPOSITION OF R. EMMETT KELLY, M.D., produced, sworn and examined on behalf of the Plaintiffs, May 31, 1994, between the hours of eight o'clock in the forenoon and five o'clock in the afternoon of that day, at the offices of Wilburn, Suggs & Watkins, 1221 Locust St., Ste. 500, St. Louis, MO, before TOD MINNIGERODE, a Certified Shorthand Reporter and a Notary Public within and for the State of Missouri.

A P P E A R A N C E S

The Plaintiffs were represented by Mr. Joseph A. Race of the Murray Law Firm, 909 Poydras St., Ste. 2550, New Orleans, LA 70112.

The Defendant Monsanto was represented by Ms. Carol Rutter, of the law firm of Husch and Eppenberger, 100 N. Broadway, St. Louis, MO 63102.

The Defendant Westinghouse was represented by Mr. Theodore H. Lucas and Mr. Richard Wunderlich of the law firm of Lewis, Rice & Fingersh, 500 N. Broadway, Ste. 2000, St. Louis, MO 63102.

1 IT IS HEREBY STIPULATED AND AGREED by and
2 between Counsel for the Plaintiff and Counsel for the
3 Defendant, that this deposition may be taken in shorthand
4 by TOD MINNIGERODE, a Certified Shorthand Reporter and
5 Notary Public, and afterwards transcribed into
6 typewriting, and to be signed by the witness by agreement
7 of counsel and consent of the witness.

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14 ROBERT EMMET KELLY, M.D.,
15 of lawful age, being produced, sworn and examined on the
16 part of the Plaintiffs, deposes and says:

17 EXAMINATION

18 QUESTIONS BY MR. RACE:

19 Q. Could you state your name for the record,
20 please?

21 A. Robert Emmett Kelly, M.D.

22 Q. Okay. And Dr. Kelly, it's my understanding
23 that you have been appointed as a designated corporate
24 representative for this deposition for Monsanto, is that
25 correct?

1 A. That is correct.

2 Q. Now you started working for Monsanto in the
3 thirties, is that correct?

4 A. Yes, January of 1936.

5 Q. Okay. And you are a medical doctor, correct?

6 A. That is correct.

7 Q. Your specialty is internal medicine and
8 occupational medicine?

9 A. And occupational medicine.

10 Q. And you worked for Monsanto until your
11 retirement in what year?

12 A. November of 1974.

13 Q. During your employment with Monsanto what was
14 your last position held with Monsanto?

15 A. The last position was director of the central
16 medical department.

17 Q. And how long had you held that position?

18 A. Since 1946, yes.

19 Q. Now what does the director of the medical
20 department do?

21 A. He supervised, he had several duties. He had
22 to supervise the medical installations in all our plants
23 and laboratories. He had to select physicians, he had to
24 see that the physicians were doing their job, carrying out
25 preventive and therapeutic aspects of industrial medicine.

1 He had to develop toxicological information. He had the
2 responsibility of disseminating such toxicological
3 information to customers, government agencies, any other
4 physicians or individuals that asked about toxicity of our
5 products. He had to write a -- formulate cautionary
6 material both for labels and for our bulletins of various
7 sorts, and he also had to develop an industrial hygiene
8 section.

9 Q. Now you -- One of the functions was to gather
10 toxicological information, correct?

11 A. That is correct.

12 Q. And then disseminate that information to
13 government and customers, correct?

14 A. That is correct.

15 Q. Monsanto had appointed or hired its first
16 toxicologist in 1950, is that correct?

17 A. That is correct.

18 Q. Actually it was a little bit past 1950, it
19 was the early fifties, correct?

20 A. Yes.

21 Q. There was no toxicologist on staff prior to
22 1950, is that correct?

23 A. That's correct.

24 Q. Monsanto did not have a toxicological
25 in-house testing lab until 1974, is that correct?

1 A. '75.

2 Q. '75?

3 A. We started our plans in 1970, late '73, '74;
4 but it did not come to fruition until I believe '75 or the
5 first part of '76 after I left.

6 Q. How many products did Monsanto manufacture
7 when you were first employed by Monsanto in 1936?

8 MS. RUTTER: Objection, Counsel, I have
9 allowed you some leeway inquiring about Dr. Kelly's
10 personal background. This is a corporate deposition, you
11 have noticed topics for the corporate deposition of
12 Monsanto and you are now straying into areas that are not
13 part of the topics noticed and I object to that.

14 MR. LUCAS: Westinghouse joins the objection.

15 MS. RUTTER: If you wish to take Dr. Kelly's
16 deposition personally if time permits under the case
17 management order that can be discussed at a later time.
18 You chose to proceed in this fashion in a corporate
19 deposition, you've got topics in the deposition notice,
20 Dr. Kelly had been designated to speak on topics 1, 4, 6,
21 7 and 9.

22 MR. RACE: Okay, Counsel.

23 Q. (By Mr. Race) So prior to 1975 all testing,
24 medical testing or animal testing was done through private
25 labs, is that correct?

1 A. Yes, sir, either academic or commercial
2 laboratories.

3 Q. You used that information to disseminate to
4 the government, correct?

5 A. Yes, sir.

6 Q. Okay. Why was an in-house lab not instituted
7 prior to 1975?

8 A. Because we did not have a through-put of
9 compounds that would justify a laboratory of our own with
10 the specialists we would need.

11 Q. What do you mean a through-put of compounds?

12 A. Well, we didn't have the volume of work to do
13 that would support a laboratory with a pathologist, with
14 biochemists, with a host of specialists that you need.
15 You just don't have one worker in a laboratory.

16 Q. How big of a lab was actually created in
17 1975?

18 MS. RUTTER: Objection, that's beyond -- Dr.
19 Kelly retired as he told you in 1974, that's beyond the
20 scope of your designation and what he's here to testify
21 to.

22 THE WITNESS: I can't hear you, Carol.

23 MS. RUTTER: I just made an objection for the
24 record that he's asking you a question in 1975 after you
25 retired from Monsanto.

1 MR. LUCAS: I join in the objection.

2 MR. RACE: For the record every time she
3 objects you join unless otherwise stated?

4 MR. LUCAS: That's fine.

5 Q. (By Mr. Race) How large a lab was planned
6 when you were director?

7 A. I can't tell you the square footage of the
8 laboratory; but we had planned about eight scientists and
9 about the same number of auxiliary help.

10 Q. So it would be staffed by a total of sixteen
11 personnel?

12 A. Give or take, yes, a few.

13 Q. What occurred in 1973 that made it necessary
14 for you to plan for the development of a lab?

15 A. I think it was just the increase in volume
16 that we had, that we had anticipated. We were rather
17 heavy in agricultural chemicals that the -- and the
18 demands by the government for more extensive testing to be
19 done to each product.

20 Q. Was it a fact that Monsanto started to
21 produce a greater variety of chemicals in the seventies
22 which required the development or private building of a
23 lab or was it a matter that the government required more
24 testing?

25 MS. RUTTER: Counsel, for the record I'm

1 going to object, you're straying far afield again from
2 your corporate designations. Question No. 9 you ask about
3 acute and chronic toxicity studies of PCB's, starting in
4 1938 to present; while I agree that you are asking
5 questions about toxicology you are straying far afield
6 from your designated topic and since you have chosen to
7 choose by corporate deposition on designated topics I
8 would ask you to confine your questions to those
9 designated topics.

10 MR. RACE: Counsel, also in the spirit of
11 openness I'll try to do this corporate deposition in a
12 general way; the representations made to the government
13 and what I am trying to ascertain is how he gathered that
14 information. He said he conveyed information to the
15 government and I am trying to establish the circumstances
16 in which he gathered the information to disseminate to the
17 government.

18 MS. RUTTER: My objection right now is your
19 question does not pertain to PCB's, you're asking him
20 broad, wide-ranging questions.

21 MR. RACE: Are you instructing the witness
22 not to answer?

23 MS. RUTTER: You have a question, one,
24 Monsanto's statements to government agencies regarding the
25 safety of the PCB's, you have a question, nine, acute and

1 chronic toxicity study of PCB's starting in 1938 to
2 present, including those studies directed to Monsanto.

3 MR. RACE: Now are you going to instruct the
4 witness not to answer or are you going to just let me
5 venture into this?

6 MS. RUTTER: What was your last question?

7 MR. RACE: I wanted to know what
8 circumstances changed that they started to plan for a lab.

9 MS. RUTTER: If you're representing that you
10 do not intend to dwell incessantly on products other than
11 PCB's, but merely ask a few more preliminary questions and
12 move on to the designated topics I'm going to listen and
13 consider question by question; but I intend to hold you to
14 these topics that you designated.

15 MR. RACE: Fine.

16 Q. (By Mr. Race) Could answer the question for
17 me?

18 MS. RUTTER: Do you remember the question,
19 Dr. Kelly, or do you want me to have it read back?

20 MR. RACE: Maybe I'll just rephrase.

21 Q. (By Mr. Race) What occurred in the seventies
22 that necessitated developing an in-house lab, was it a
23 matter of Monsanto producing more chemicals or the
24 government requiring more testing?

25 A. I think it -- First of all, it wasn't 1970,

1 you mentioned 1970; it was 1973.

2 Q. Correct, okay.

3 A. No. 2, we went into the field where there
4 were regulations of the government, we were going into
5 agricultural chemicals, herbicides, pesticides, and those
6 required more extensive testing than industrial chemicals
7 were -- than we did on industrial chemicals. So I think
8 it was we went into a field where the government wanted
9 more testing.

10 Q. So Monsanto started to get into the field of
11 herbicides and pesticides in the seventies, is that what
12 you're telling me?

13 A. Yes, that is correct.

14 Q. In the in-house lab were there any tests
15 conducted on PCB's, any studies conducted on PCB's?

16 MS. RUTTER: Objection, I believe that's
17 beyond the scope of this witness' time.

18 A. We did not have a lab. We did not have a
19 laboratory until I left.

20 Q. (By Mr. Race) So you don't know?

21 A. No, I don't know.

22 Q. Was it anticipated that any animal studies
23 would have been done in this laboratory?

24 A. Oh, yes.

25 Q. Did you anticipate doing studies on PCB's in

1 these laboratories?

2 MS. RUTTER: Objection, calls for speculation
3 and conjecture.

4 Q. (By Mr. Race) Subject to the objection can
5 you answer?

6 A. No. I didn't think we needed any more
7 toxicological information. We had run testing at
8 Industrial Bio-test, rather extensive testing.

9 Q. Okay. When did Monsanto first use IBT?

10 A. Sometime in the fifties.

11 Q. Had they used IBT exclusively for their
12 testing of PCB's?

13 A. No, sir, we used -- We had acute studies
14 carried on by the Younger laboratories of Scientific
15 Associates Laboratories in St. Louis, we had inhalation
16 studies carried on in 1954 at the University of
17 Cincinnati, the Kettering laboratory.

18 Q. What year was that the inhalation studies?

19 A. 1954.

20 Q. Was that the Treon studies?

21 A. Yes.

22 Q. And acute studies were conducted by whom?

23 A. There were two groups, Scientific Associates,
24 and Younger Laboratories, Y-o-u-n-g-e-r.

25 Q. And what years were those acute studies

1 conducted by Scientific and Younger?

2 A. From '38 on, we also had some work done at
3 Drinker's laboratory at Harvard School of Public Health in
4 '37, I believe.

5 Q. So the scientific was in 1938 until when?

6 A. They started off with one group, Scientific
7 Associates, Younger split off; so then there was
8 Scientific Associates and Younger Labs, and we used that
9 for intervals all the way for our acute package of
10 toxicological testings, either one of them. But towards
11 the latter part of the years we gravitated more toward
12 Younger and that kept up until I left. We were still
13 doing it in 1974.

14 Q. How many tests were conducted, acute toxicity
15 tests on PCB's?

16 A. Gee, I'd say -- this is on rats, pretty much
17 of a guess, around fifty.

18 Q. The first chronic toxicity studies were
19 conducted on behalf of Monsanto by IBT, is that correct?

20 A. Well, no; I think it would -- the tests done
21 by Treon at the Kettering laboratory were chronic
22 inhalation work, that was 120 days, which at that time was
23 considered a chronic study. First extensive oral feeding
24 on two species of animals was done at IBT.

25 Q. The IBT tests were designed to go for two

1 years, is that correct?

2 A. Yes, two years in rats, two years in -- two
3 years of dogs also.

4 Q. Two years in rats and two years in dogs?

5 A. That's correct.

6 Q. And by today's standards two years is
7 considered an acceptable length of time for a chronic
8 study, is that correct?

9 A. Yes, and rats will -- If you ever studied
10 chronic toxicity in dogs for various purposes, that's
11 seven years.

12 Q. So with IBT the rat study was considered a
13 chronic study and the dog study would not have been
14 considered a chronic study?

15 A. Well, it was in 1968; that's what the
16 government asked for for food additives. They considered
17 it a chronic study.

18 Q. What is the advantage of a chronic study
19 over an acute study?

20 A. Well, the advantage is that in an acute study
21 you are dealing with a one shot approach, whether that one
22 shot is divide a dose over two or three days, but in a
23 chronic you are trying to find out if a little bit of the
24 material is absorbed every day it acts on the various
25 systems of the body in repeated doses.

1 Q. Okay. With an acute study the animals are
2 sacrificed shortly after the exposure, is that the general
3 rule?

4 A. Well, it all depends if you're developing an
5 LD-50, which is a benchmark for acute toxicity oral
6 studies. You feed them until you get a dose that will
7 kill half the animals, and usually in an acute study, you
8 do not run pathological testing on the organs, as you do
9 in a chronic study.

10 Q. So on acute study once the animals die you
11 just count the numbers and once half of them is dead you
12 take and note what the doses had been at that level?

13 A. Well, you do a gross examination of the
14 organs, they see if the liver is discolored, they see if
15 the liver is changed in weight, if it were swollen; but
16 there really isn't long enough period of time to develop
17 pathological changes in the organs.

18 Q. So acute studies are not designed to be
19 utilized with pathological investigation, correct?

20 MS. RUTTER: Objection, mischaracterizes
21 prior testimony.

22 A. Well, it's -- an acute study is that where
23 they find out what it takes to kill an animal in a short
24 period of time, short period of testing, and you -- There
25 are certain things you can find out by a gross

1 pathological examination that you don't need to run
2 microscopic sections on. There is as a rule you do not do
3 microscopic pathology on acute testing.

4 Q. (By Mr. Race) Now with the Treon studies
5 those animals were sacrificed after 120 days, is that
6 correct?

7 A. That's correct.

8 Q. Doctor, changing just a little bit here, what
9 are the known carcinogens?

10 A. What are the known carcinogens?

11 MS. RUTTER: Objection, what topic?

12 MR. RACE: Advertised health effects of the
13 PCB's and related compounds.

14 MS. RUTTER: Prior to 1970 as you designated.

15 MR. RACE: Uh-huh.

16 MS. RUTTER: Well, that's not what your
17 question was. If you want to rephrase it to ask him about
18 the adverse health effects of PCB's prior to 1970 that's
19 one question.

20 MR. RACE: And related compounds.

21 Q. (By Mr. Race) Let me ask you this: Is
22 dioxin a carcinogen?

23 MS. RUTTER: Objection, you're asking him
24 about today; if you want to ask him if dioxin was a
25 carcinogen during the time that he worked for Monsanto

1 through the end of 1974.

2 MR. RACE: I assume if something's going to
3 be a carcinogen before '70 or after '70 then that fact
4 doesn't change. If it was carcinogen before 1970 it will
5 be a carcinogen after 1970; that doesn't change.

6 MS. RUTTER: No, but Counsel, it might
7 change -- I don't know what was known before 1974 and what
8 wasn't. You may ask this witness what he knows.

9 MS. RUTTER: I have a strict liability claim,
10 right, my strict liability claim says is anything
11 defective or unreasonably dangerous; so therefore it's the
12 condition of the products that exists, not the knowledge.
13 I am asking him what the carcinogenic effect of dioxin or
14 its carcinogenic properties of dioxin prior to 1970, so --
15 and that line of thinking I believe that I am following
16 the parameters of the corporate deposition.

17 MS. RUTTER: You just rephrased your question
18 substantially from the prior question that you had on the
19 table.

20 MR. RACE: And I am trying to work with you,
21 Counsel.

22 MS. RUTTER: Okay, go ahead. You're going to
23 need to repeat it for him.

24 Q. (By Mr. Race) Is dioxin a carcinogen?

25 MS. RUTTER: Objection, you are asking him if

1 dioxin is a carcinogen today. You may ask him if dioxin
2 was known to be a carcinogen.

3 MR. RACE: Known to be is not relevant,
4 Counsel. I have a strict products liability claim,
5 knowledge is not an issue. What it is in fact is the
6 issue.

7 MS. RUTTER: Counsel, what relevance --

8 Q. (By Mr. Race) Doctor, was dioxin a
9 carcinogen in 1970?

10 A. I don't know if it was a considered a
11 carcinogen in 1970.

12 Q. Is it considered a carcinogen today?

13 MS. RUTTER: Objection, the witness is
14 instructed not to answer.

15 Q. (By Mr. Race) In 1970 was there individuals
16 that considered dioxin to be a carcinogen?

17 MS. RUTTER: You may answer that if you know.

18 A. Yes, there were.

19 Q. (By Mr. Race) And there were those that
20 considered dioxin not to be a carcinogen, is that correct?

21 A. That's correct.

22 Q. So in the scientific community you do have
23 different schools of thought on the carcinogenic
24 properties of chemicals, is that correct?

25 A. That's correct.

1 Q. In 1970 were you of the opinion that dioxin
2 was a carcinogen?

3 A. I don't believe I had an opinion in 1970.

4 Q. Did you have an opinion before 1974?

5 A. No, I did not. Whether or not it was
6 considered -- I considered it to be a carcinogen or a
7 promoter, I just don't know what my opinion was in 1974.

8 Q. You say a promoter; what do you mean by a
9 promoter?

10 A. That's a compound that will act on a
11 condition of the body to enhance a carcinogenic effect of
12 another compound.

13 Q. Okay. And this is opposed to an initiator?

14 A. Yes.

15 Q. And an initiator starts it and a promoter
16 helps it go along?

17 A. That's right, an initiator doesn't need a
18 promoter, it just keeps going.

19 Q. What was the time of development -- from the
20 time of exposure to the development of clinically
21 detectable cancer?

22 A. What was the time? It varies all over.

23 Q. Could you give me a ballpark?

24 MR. RACE: It's within the scope.

25 MS. RUTTER: It is not within the scope.

1 MR. RACE: It's the testing, Counsel.

2 MS. RUTTER: What designated topic is this
3 question within the scope of? My concern is that you're
4 asking about now, that's one of my concerns. My other
5 concern is that it's not a designated topic.

6 MR. RACE: Acute and chronic toxicity
7 studies, these are the differences.

8 MS. RUTTER: Is there a question on the
9 floor?

10 MR. RACE: Yes.

11 MS. RUTTER: What is the question?

12 MR. RACE: The length of period of time from
13 exposure to a chemical to the development of cancer.

14 MS. RUTTER: To any chemical?

15 MR. RACE: To PCB's. Well, I don't think
16 he's going to say PCB's; he's going to say -- Yes, any
17 chemical, which would form the basis of PCB studies.

18 MS. RUTTER: I don't understand the question,
19 Counsel.

20 MR. RACE: Let's have a break for a second.

21 (Whereupon, a discussion was held off the record.)

22 Q. (By Mr. Race) In 1974 you had an idea of the
23 promoter-initiator relationship in cancers?

24 A. That is correct.

25 Q. And in 1974 when you were medical director

1 choosing these tests you had an idea that the length of
2 time from the time an individual was exposed to a
3 substance to the time that a cancer would be seen or
4 develop, is that correct?

5 A. A little louder and little slower.

6 Q. What was your appreciation of the interval
7 between exposure to a substance and clinically detectable
8 cancer?

9 MS. RUTTER: Objection, overbroad and vague.

10 Q. (By Mr. Race) Okay. Subject to the
11 objection, go ahead and answer if you can.

12 A. I don't think a person can tell. It varies
13 all over the lot; it could vary from five years to thirty
14 years.

15 Q. So you would agree with me that the time
16 between the exposure to a substance and the development of
17 cancer can be rather lengthy, is that correct?

18 A. Yes, it can.

19 Q. And for that reason when looking or
20 completely -- Or strike that. And for that reason in
21 developing tests, animal tests it is desirable to have
22 chronic studies done as those that were done by IBT, is
23 that correct?

24 A. That is correct.

25 Q. It is the chronic studies that will explore

1 the possible carcinogenic properties of a substance rather
2 than the acute studies?

3 A. Yes, sir.

4 Q. And in 1974 the accepted duration for a
5 chronic study was twenty-four months, correct?

6 A. Correct.

7 Q. And the first chronic studies sponsored by
8 Monsanto were the IBT studies?

9 MS. RUTTER: Objection, mischaracterizes
10 prior testimony.

11 Q. (By Mr. Race) Subject to the objection --

12 A. We considered a chronic study of 120 days by
13 Treon a chronic inhalation study. We were not looking for
14 carcinogenic effects at that time; but the first one, the
15 first two year study that we carried out on an industrial
16 chemical was the IBT studies, we had done work on food
17 additives and work on agricultural chemicals.

18 Q. Chronic animal studies are considerably more
19 expensive than acute animal studies?

20 A. No question about it.

21 Q. And they are more expensive because the
22 animal has to be kept alive for a longer period of time,
23 correct?

24 A. Yes.

25 Q. And once the animal is sacrificed you have to

1 employ pathologists to examine the organs, is that
2 correct?

3 A. Yes, sir.

4 Q. And that's not true with acute studies; is
5 that correct?

6 A. That is correct.

7 Q. How many animals were within the IBT chronic
8 studies?

9 A. I can't give you the exact figures, they'd be
10 approximations.

11 Q. Okay.

12 A. He had three doseage levels and one control
13 level, these are rats now, for three different compounds,
14 so that's twelve series of animals and probably fifty rats
15 in each one, that would be six hundred rats.

16 Q. Okay. The Treon study, is it not correct,
17 had seventy some rats?

18 A. No, he had a mixed bag, he had cats, rabbits,
19 a dog, and rats, he had about four different species but
20 not a great number of them and they only ran on two
21 different PCB's.

22 Q. Which were the two PCB's he ran?

23 A. 1254 and either 1242 or 1248.

24 Q. And in the Treon study did they not note an
25 increase in lung cancer?

1 A. No, sir, they did not.

2 Q. Did they have any adverse effect on the Treon
3 studies?

4 A. Did they have any --

5 Q. Adverse effect noted on the Treon studies?

6 A. I didn't hear the last.

7 Q. Adverse effects.

8 MS. RUTTER: Did they have any adverse
9 effects in the Treon studies?

10 A. Yes, they had the high doses had some liver
11 involvement.

12 Q. (By Mr. Race) Okay. Would it then be
13 systemic, would that be considered a systemic injury?

14 A. Oh, yes.

15 Q. What's your definition of systemic as
16 appreciated before 1974?

17 A. Well, systemic means the body as a whole, it
18 doesn't mean that the liver is involved, the kidney's
19 involved, but one of the internal organs of the body is
20 involved. Local action is the action of -- on the skin,
21 but you could get a systemic involvement that will give
22 skin problems. Chloracne is a systemic involvement that
23 involves the skin; an acid burn is a local involvement
24 that involves the skin.

25 Q. But an acid burn is not systemic because it's

1 confined to localized area whereas the chloracne is
2 systemic because it's an indication that other organs in
3 the body are being affected?

4 A. May be affected, may be.

5 Q. Now with the Treon study the liver was
6 affected, correct?

7 A. Yes, sir.

8 Q. What were the effects known to the liver?

9 MS. RUTTER: What were were the effects known
10 to the liver?

11 Q. (By Mr. Race) Noted on the liver, excuse me?

12 A. There was swelling of the liver cells; there
13 was probably some death of some liver cells. I don't
14 recall the details of this, of the pathology right at the
15 present time. It's forty years ago.

16 Q. Okay. Was 120 days a sufficient period of
17 time for any tumors to develop in the animal studies?

18 A. No, sir.

19 Q. So you would not have found any tumors in the
20 Treon studies because it was only 120 days, is that
21 correct?

22 A. That's fair, yes.

23 Q. In the 1950's were there any chronic studies
24 being conducted on any substances that would last for
25 greater than twenty days which --

1 A. Where, in the whole world?

2 Q. That you know of.

3 A. There were some agricultural chemicals, I do
4 not know if that was in the 1950's or later than that, I
5 don't know, but they were being conducted.

6 Q. That would last for a two year period of
7 time, for example?

8 A. That's correct.

9 Q. So there were two year chronic studies being
10 conducted in the fifties?

11 MS. RUTTER: Objection, mischaracterizes his
12 testimony. Listen to his question and then you may answer
13 it.

14 Q. (By Mr. Race) There were in the fifties
15 chronic studies lasting two years, is that correct?

16 A. To the best of my recollection, some
17 agricultural compounds were subjected to two years'
18 testing.

19 Q. Was it part of your responsibility to
20 disseminate information to the government on the
21 environmental aspects of PCB's?

22 MS. RUTTER: Was it part of his
23 responsibilities?

24 MR. RACE: Yes.

25 MS. RUTTER: As medical director?

1 A. It all depends on what what branch of the
2 government you're talking about. If you're talking about
3 the feds, federal, the government or the state government.

4 Q. (By Mr. Race) The federal government at this
5 point.

6 A. Yes, we did send information to the Food and
7 Drug Administration, to the Department of Agriculture and
8 to Dr. Berger who was the chief scientific advisor to the
9 president sometime in late '69 or 1970.

10 Q. And this -- When I'm questioning you now it
11 is about the environmental impact, the PCB's found in fish
12 and bird life?

13 A. Well, it was toxicological information which
14 bore on the relationship of the environmental
15 contamination.

16 Q. Now can I -- I don't want to misstate
17 anything, so you would disseminate toxicological
18 information to the government and the community at
19 large --

20 A. Well, disseminate is a bad word, I shouldn't
21 have used that. We didn't broadcast information. We made
22 information available to our customers, to the government,
23 people that had something to do with either regulation or
24 had interests in the compound. We sent information to
25 doctors who asked for it; but we didn't take an ad in the

1 Business Week and say here is what we found out
2 toxicological-wise on our products.

3 Q. And the toxicological information that you
4 would provide to anybody that asked you would be both in
5 the area of contamination in the environment as well as
6 the effects on humans, is that correct?

7 A. Well, as well as the effects --

8 Q. On human beings?

9 A. Well, in the first place we did not have any
10 environmental knowledge of any environmental problem until
11 the late sixties; so if we did send out information to
12 people at that time, the -- We sent out the effects of the
13 toxicological work on animals to people who asked for it.
14 The information we sent out on humans was all negative
15 information; we did not have any illnesses in our work, we
16 had no reports of illnesses that workers of our major
17 companies, major customers, so that's what we did.

18 Q. And you knew -- Monsanto had the same policy
19 with respect to providing information about toxicity in
20 the area of the environment as well as animal studies and
21 human injury, is that correct?

22 MS. RUTTER: I object to the vague and
23 confusing form of the question.

24 Q. (By Mr. Race) Do you understand the
25 question, Doctor?

1 A. Not particularly.

2 Q. Okay. Then let me rephrase it, please.

3 Monsanto had an open policy to provide information on the
4 environment and PCB's, correct?

5 A. That's correct.

6 Q. And it was the same time type of open policy
7 that they had with respect to supplying information on
8 animal tests and the human toxicity of PCB's, is that
9 correct?

10 A. That's correct.

11 Q. So it was the same open policy for both
12 areas, the environmental area and the occupational
13 medicine area, is that correct?

14 MS. RUTTER: Well, objection, your previous
15 question referred to animal toxicity, you were referring
16 to three areas, not two.

17 Q. (By Mr. Race) Okay. Can you --

18 MS. RUTTER: So I object to the confusing
19 form of the question.

20 Q. (By Mr. Race) Now I'll have to repeat it for
21 sure. You had a -- the same policy, Monsanto had one
22 policy to be open, correct?

23 A. Yes.

24 Q. And that policy governed whether it was
25 environmental information being put out, animal studies or

1 human injury, that is correct?

2 A. Or lack of human injury.

3 Q. Or lack of human injuries, it was the same
4 policy?

5 A. Yes, anything we knew we told anybody who
6 asked and we're very up front with the government on it.

7 Q. Doctor, what's your address please?

8 A. 665 South Skinker, S-k-i-n-k-e-r.

9 Q. S-k-i-n-k-e-r?

10 A. St. Louis, 63105.

11 Q. St. Louis, 63105. Your phone number?

12 A. 314 862-1025.

13 Q. How long have you lived there?

14 A. 22 years.

15 Q. Do you believe it is Monsanto's
16 responsibility to inform both the public and government of
17 any adverse toxicological effects of PCB's?

18 A. I don't know what you mean by the public.
19 What we do, we inform the regulatory -- the government
20 bodies, we inform the customers and we inform any of the
21 medical profession that write us about it.

22 Q. And you would agree with me that Monsanto has
23 the responsibility to inform its customers of the
24 toxicological characteristics of the chemicals
25 manufactured by Monsanto?

1 MS. RUTTER: Objection. Are you asking him
2 about his opinion about what Monsanto's duties were during
3 the time period he worked with Monsanto through 1974?

4 MR. RACE: Yes.

5 MS. RUTTER: Could you rephrase the question
6 to indicate the time period, please?

7 MR. RACE: Read that back.

8 (Reporter read back from the record as directed:

9 "Q. And you would agree with me that
10 Monsanto has the responsibility to inform its customers of
11 the toxicological characteristics of the chemicals
12 manufactured by Monsanto?"

13 A. Yes.

14 Q. (By Mr. Race) Now you said that --

15 MS. RUTTER: And for the record, Counsel had
16 previously clarified that question to mean that he was
17 asking your opinion while you worked for Monsanto.

18 THE WITNESS: Yes, that's what I thought.

19 MS. RUTTER: All right, good.

20 MR. RACE: Me too, we're on the same page.
21 Carol, you're not far behind; maybe you're just a little
22 bit ahead, I don't know.

23 Q. (By Mr. Race) Now in disseminating
24 information, oh, I'm using that word again. In providing
25 the government with information, okay?

1 A. Yes.

2 Q. About the environment, for example, you
3 testified that you first became aware in 1967 or '68 of
4 the environmental impact of PCB's?

5 A. That's correct.

6 Q. Did you know that PCB's were
7 non-biodegradeable prior to 1967?

8 A. We assumed that they were non-biodegradeable.

9 Q. So you assumed that were they would be,
10 remain in the environment?

11 A. That if they got into a body of water they
12 would be like a piece of gravel at the bottom of the
13 sediment of the water, it would not be absorbed.

14 Q. So you made this assumption that if PCB's got
15 into a body of water it would act like a piece of gravel
16 and fall to the bottom?

17 A. That's correct.

18 Q. Were you informed otherwise prior to your
19 departure from Monsanto?

20 A. Yes.

21 Q. What were you informed of?

22 A. We were informed that people in Sweden had
23 done work and found out that the material was picked up by
24 shrimp, fish, some avian species, falcons, that somehow or
25 other the material was metabolized by the plankton or the

1 algae and when the shrimp would eat the algae they would
2 develop an accumulation of PCB's; minnows would eat them,
3 when a larger fish would eat the minnow they would
4 accumulate PCB's in their fatty tissue. If along comes a
5 bald eagle and eats the fish he also could pick up PCB's.

6 Q. And in what year were you informed that this
7 was occurring?

8 A. '69 or '70.

9 Q. Did you immediately thereafter inform the
10 United States government or insure that the government,
11 the United States government was also aware of this
12 information?

13 A. Oh, the U.S. government was certainly aware
14 of it.

15 Q. Were any tests -- or strike that. Now you
16 said that your assumption was that this would -- that the
17 assumption was that PCB's were non-biodegradeable, is that
18 correct?

19 A. That's correct.

20 Q. And your assumption was that if it got into a
21 water stream, a body of water it would lay at the bottom
22 of the water like gravel?

23 A. Yes, we had a compound that was insoluble in
24 water, we had a compound that was a non-reactive and we
25 considered it persistent in its present shape.

1 Q. Did you conduct any tests to establish that
2 that would be in fact the reaction of this compound if it
3 reached a body of water?

4 A. I myself did not. I do not know if some of
5 the other groups of the company had tested.

6 Q. Do you know of any tests as a representative
7 of Monsanto which were conducted to insure that PCB's
8 would not get into the food chain?

9 A. Before 1970, no.

10 Q. Okay. And when did you first become aware or
11 speculate that PCB's was non-biodegradeable?

12 A. Gosh, we --

13 MS. RUTTER: Counsel, could you define the
14 term non-biodegradeable?

15 MR. RACE: No.

16 MS. RUTTER: Well, I object to the form of
17 the question.

18 MR. RACE: I don't because it doesn't matter
19 how I define it. I'll ask the witness to define it.

20 THE WITNESS: I couldn't hear all the
21 interplay.

22 MR. RACE: She just said she thought I was a
23 great attorney.

24 MS. RUTTER: I objected to the term -- use of
25 the term non-biodegradeable without a definition. I asked

1 him to define non-biodegradeable.

2 THE WITNESS: Did he?

3 MS. RUTTER: No, he did not.

4 Q. (By Mr. Race) I said you can do it for me.

5 A. Non-biodegradeable means that the material is
6 not broken down by the organisms or the action of sunlight
7 or the action of other compounds.

8 Q. In other words, it's difficult to destroy it,
9 correct?

10 A. That's correct.

11 Q. And it will last in the environment for a
12 long time, is that correct?

13 A. Yes, sir.

14 Q. And when did you believe that that was the
15 characteristics of PCB's?

16 A. I believed it all the time up till the late
17 sixties.

18 Q. So from 1936 when you started until 1970 that
19 was your belief that PCB's were non-biodegradeable?

20 A. That's correct.

21 Q. And after 1970 when the Swedes found that
22 PCB's were getting into the food chain did Monsanto then
23 conduct any tests?

24 A. Yes, they did.

25 Q. And did those tests reveal not only was it in

1 the food chain but it was adversely affecting both birds
2 and fish?

3 A. Did Monsanto test? Monsanto did not run
4 tests at that particular time on birds. There were plenty
5 of people running those tests in the fish and wildlife.
6 They were doing it in the United States, there were people
7 doing it in Europe and we knew that the material was
8 getting into the food chain; but we did not -- that was
9 not our work. The thinning of egg shells was found by the
10 people in California, the best of my knowledge.

11 Q. You say getting -- you know that it was
12 getting into food chain but it was not your work?

13 A. We did not discover it.

14 Q. Oh, okay. Did you review the studies that
15 were conducted by others?

16 A. Yes, sir.

17 Q. And did those studies in fact indicate that
18 not only were PCB's getting into the food chain but that
19 it was killing fish and killing birds?

20 A. It was not -- I do not know if the same
21 studies were showing all those three different things. It
22 was killing the birds by having an absence of egg shells,
23 a thinning of egg shells, so when the nesting occurred the
24 chick was -- was destroyed, because you can't sit on a
25 nest without a shell.

1 MS. RUTTER: Counsel, for the record, you are
2 going very far astray from the corporate designations.

3 MR. RACE: I'll get off this.

4 MS. RUTTER: And I would like to add that the
5 last line of testimony about environmental testing was
6 beyond the scope of the designation and is objected to in
7 its entirety. You did not include that topic on your
8 corporate designation; we're supposed to be talking about
9 acute and chronic toxicity studies.

10 Q. (By Mr. Race) You monitored the industrial
11 hygiene program instituted at Monsanto's plants?

12 A. Well, they purported to be, yes.

13 Q. And it was your recommendation that there be
14 periodic testing of Monsanto employees, correct, medical
15 testing?

16 A. Well, yes, we did have a program of examining
17 all people on the hourly, on the wage roll, the PCB
18 employees were tested but they were given the same tests
19 that were given to all our workers in our plants.

20 Q. Okay. Now do you believe that it was good
21 occupational medicine to have workers exposed to PCB's
22 periodically and examined?

23 A. It depends on the exposure.

24 Q. Okay. Can you indicate when, what exposure
25 would warrant periodic medical examinations?

1 MS. RUTTER: Objection, unless you restrict
2 the question to what his opinions were --

3 MR. RACE: Prior to 1974.

4 MS. RUTTER: Prior to 1974.

5 A. I'm sorry, I lost track of the -- you asked
6 what conditions a worker would be exposed to that would
7 warrant --

8 Q. (By Mr. Race) Periodic medical examination.

9 A. Well, that's an assumption that I would have
10 to make by how much exposure did the man have, is he
11 breathing fumes at elevated temperatures for eight hours a
12 day, is he getting the stuff on his hands, and his clothes
13 soaked with it, that's one assumption. If he is doing
14 work for -- he is only breathing the fumes at room
15 temperature and he wears gloves, he's not going to come in
16 skin contact with it, he wouldn't need it.

17 Q. Okay. So did Monsanto ever give any advices
18 that it's -- the employees of its customers should have
19 periodical, periodic medical examination?

20 A. No, sir, we did not. We told them how to
21 avoid any ill effects from the material and if they
22 followed those they did not need monitoring.

23 Q. Is your appreciation that all your customers
24 followed advices that were given by Monsanto?

25 A. I wouldn't know.

1 Q. Did you provide for any inspection of any of
2 the Monsanto or any of the facilities of Monsanto's
3 customers?

4 MS. RUTTER: Counsel, Mr. Papageorge has been
5 designated to speak on that topic.

6 MR. RACE: Yeah, well I want to know if Mr.
7 Papageorge has given any information to Dr. Kelly.

8 MS. RUTTER: Rephrase your question.

9 Q. (By Mr. Race) Did you receive any
10 information concerning investigations of the facilities of
11 Monsanto's customers?

12 A. No, sir, I did not.

13 Q. So you never received information as to
14 whether Westinghouse -- the Bloomington facility of
15 Westinghouse abided by the safety guidelines as outlined
16 by yourself, is that correct?

17 A. That's correct.

18 Q. And if you were informed that an employee of
19 Westinghouse would breathe in fumes and was having dermal
20 contact with a substance, with PCB's, you would have
21 recommended periodic medical examination, is that correct?

22 MS. RUTTER: Objection, mischaracterizes
23 prior testimony.

24 MR. LUCAS: And assumes facts not in
25 evidence.

1 THE WITNESS: Beg your pardon?

2 MR. LUCAS: We both objected to the question.

3 Subject to the objection you can answer the question.

4 MS. RUTTER: Do you need to have it repeated?

5 THE WITNESS: I sure do.

6 MR. RACE: Want me to read it back?

7 (Reporter read back from the record as directed:

8 "Q. And if you were informed that an
9 employee of Westinghouse would breathe in fumes and was
10 having dermal contact with a substance, with PCB's, you
11 would have recommended periodic medical examination, is
12 that correct?")

13 A. I would recommend that they follow the advice
14 on our bulletins, not to breathe the fumes at elevated
15 temperatures and not to -- and to avoid repeated or
16 continuous dermal contact.

17 Q. (By Mr. Race) And if you found out that an
18 employee had dermal contact and breathed fumes at elevated
19 temperatures you would have recommended periodic medical
20 examination?

21 MR. LUCAS: Same objection.

22 Q. (By Mr. Race) You can answer subject to the
23 objection.

24 MS. RUTTER: Objection, mischaracterizes
25 prior testimony and it's a hypothetical question that

1 omits so many facts that it's not susceptible to being
2 answered; it calls for speculation and conjecture.

3 Q. (By Mr. Race) Can you answer it?

4 A. No, I can't.

5 Q. Now the first chronic -- Well, IBT conducted
6 chronic studies in 1969, was it?

7 A. I thought it was '68.

8 Q. '68. Did Monsanto have any epidemiological
9 studies?

10 A. On what?

11 Q. On PCB's?

12 MS. RUTTER: During the time before he left?

13 Q. (By Mr. Race) Yes.

14 A. We did not have epidemiological studies. We
15 had what we called our cancer index. Sometime in the
16 early fifties or late forties we made a compilation of all
17 the malignancies that occurred in our workers just to see
18 if there were any clustering of cases at any one
19 particular plant. That was not an epidemiological study.

20 Q. Okay. So it is not what you would consider a
21 statistically significant or attempt to be statistically
22 significant type of study, is that correct?

23 A. That's correct.

24 Q. It would be classified more as a casual
25 observation than a scientific exploit, that is correct?

1 A. Well, I don't think I'd call it casual, we
2 were finding out whether we had a clustering of
3 malignancies at any particular department.

4 Q. You didn't follow any of these employees
5 after they left of the employment of Monsanto, did you?

6 MS. RUTTER: Dr. Kelly personally?

7 MR. RACE: Or his department.

8 MS. RUTTER: Well, objection, calls for
9 speculation and conjecture.

10 MR. RACE: He's here as a corporate
11 representative.

12 MS. RUTTER: He's here as corporate
13 representative through 1974.

14 MR. RACE: I'm agreeing with the time, no
15 problem.

16 MS. RUTTER: There's a problem because you
17 continually attempt to evade the time period that we're on
18 here, and I'm going to make sure the record is clear. You
19 can make faces at me as you have been doing throughout the
20 deposition, I don't care, either properly restrict your
21 question to the time frame that we're dealing with or I
22 will continue to make my objections to make sure that the
23 record is clear and you obviously think this is very
24 funny, that's fine, you can treat it as though it's an
25 amusing matter. I'm going to make sure the record is

1 clear.

2 MR. RACE: Off the record.

3 (Whereupon, a discussion was held off the record.)

4 Q. (By Mr. Race) When did you start doing the
5 cancer index?

6 A. When did I start what?

7 Q. Start keeping your cancer index?

8 A. Late forties, I I think.

9 Q. And you continued the cancer index through
10 1974 when you retired?

11 A. That's correct.

12 Q. Now in that interim period of time did
13 workers leave the employment of Monsanto?

14 A. Yes.

15 Q. Was the cancer index designed to follow those
16 workers after they left Monsanto?

17 A. If the insurance was in force afterwards it
18 would detect them; if it was not in force it would not.

19 Q. So you can't say that one hundred percent of
20 the employees were followed after they left Monsanto?

21 A. No, I could not.

22 Q. And that's either employees that may have
23 been terminated or quit or retired, correct?

24 A. That's correct, the retirees, however, would
25 continue their insurance, I know they would, so they would

1 be accounted for; but if they quit and dropped their
2 insurance or became disabled, if they were disabled for a
3 broken back or something, that would -- they would be
4 included because our insurance kept on.

5 Q. Now with the cancer index that you kept is it
6 not true that you saw a lot of lung cancer?

7 A. Oh, sure, lung cancer is probably one third
8 of all cancers of the male.

9 Q. Did you make any attempt to determine whether
10 the lung cancers were greater than the national average?

11 A. No, sir, I do not believe so, up until 1974.

12 Q. You made no attempt to determine whether this
13 increased lung cancer should cause you concern?

14 A. To which?

15 Q. Cause you concern?

16 MS. RUTTER: Objection to the form of the
17 question, it's vague and confusing.

18 A. Well, in the first place I do not know if
19 there was an increase in lung cancer. What I was
20 interested in was finding out whether or not there was an
21 clustering of any cancers. Now let's take lung cancers in
22 any particular department or particular plant. We did not
23 find that; so this did not give me concern that our
24 environment in the particular plant was giving them an
25 increase in lung cancer.

1 Q. (By Mr. Race) But it was the overall plant
2 as opposed to specific in the plants?

3 A. No. We had the departments in which the
4 employee worked.

5 Q. So when you were looking for clustering you
6 were looking for adverse effects within the specific
7 departments, correct?

8 A. That's correct.

9 Q. That's what you mean by clustering?

10 A. Yes.

11 Q. And what you did note that there was a high
12 incidence of cancer but across the board in all
13 departments, is that correct?

14 MS. RUTTER: Oh, objection, mischaracterizes
15 prior testimony.

16 You may answer the question.

17 Q. (By Mr. Race) Can you answer the question?

18 A. Will you repeat it?

19 Q. You said you noticed a large -- a number of
20 cancers, lung cancers, correct?

21 A. Well, large, yes, there were, as I said
22 there -- lung cancers are one-third of all the cancer
23 death for males, so if you're going to bounce up males
24 that are dead of cancer you get one-third of them dead
25 from cancer of the lung.

1 Q. Okay. But these were, these lung cancers
2 were of employees that worked in all departments, correct?

3 A. Yes, it was spread throughout various
4 departments.

5 Q. And you made no attempt to determine whether
6 the instances of Monsanto lung cancer were greater than
7 the national averages, did you?

8 A. No, sir, I did not carry out a scientific
9 epidemiological study along those lines.

10 Q. Would you agree with me, sir, that Monsanto
11 has a duty to be knowledgeable about the effects of its
12 chemicals?

13 A. Yes.

14 Q. And you would inform -- you being Monsanto
15 prior to 1974, would inform customers and the government
16 of any adverse effects to humans or wildlife noted that
17 Monsanto knew of which was caused by chemicals
18 manufactured by Monsanto, correct?

19 A. That's a pretty long one. Let's break that
20 down into several questions.

21 Q. It's one question and it is a long one. It
22 would be Monsanto's policy to inform the government and
23 customers of adverse effects, toxicological effects of
24 chemicals manufactured by Monsanto?

25 A. If the people didn't know as much about it as

1 we did.

2 Q. And if --

3 MS. RUTTER: Counsel, still once again you're
4 straying into broad general areas about chemicals in
5 general. Your designations that you asked us to bring a
6 corporate representative here to talk about relate to
7 PCB's. I would ask you to please get back to the
8 corporate designations.

9 Q. (By Mr. Race) So if PCB's were known to
10 cause any adverse effects Monsanto would inform its
11 customers and the government, is that correct?

12 A. If Monsanto knew about it, and if it was at
13 all relevant to what the customer was using the material
14 for.

15 Q. And you would agree with me that if it was
16 reasonably possible for a chemical such as PCB's to cause
17 cancer you would notify customers, is that correct?

18 A. Yes, if I thought it was --

19 Q. Reasonably possible?

20 A. Reasonably possible.

21 Q. Is it true that positive animal studies with
22 respect to showing tumors, carcinogenic tumors would
23 constitute a reasonable possibility that it would be
24 carcinogenic in humans?

25 A. No, it would not.

1 Q. What is the threshold of your reasonably
2 possible?

3 A. If we had any instances of cancer of any
4 statistical accuracy that showed an increase in cancer.
5 Animal studies itself while they are helpful in
6 pointing -- that's all we have, but the government has
7 called sand a carcinogen and I wouldn't consider that to
8 be a carcinogen. The government --

9 MR. RACE: I'm going to object to the
10 response insofar as we're talking about PCB's along the
11 same things that you are objecting, but that's fine, okay.

12 Q. (By Mr. Race) So in order for you to feel
13 obligated to inform a customer that a chemical such as
14 PCB's is a reasonably possible cause of cancer you would
15 want a scientifically accurate study involving humans,
16 such as epidemiological studies, is that correct?

17 MS. RUTTER: Objection, mischaracterizes
18 prior testimony in several respects.

19 Q. (By Mr. Race) Could you answer that?

20 A. Will you repeat it?

21 MS. RUTTER: Could you read the question
22 back, please?

23 (Reporter read back from the record as directed:

24 "Q. (By Mr. Race) So in order for you to
25 feel obligated to inform a customer that a chemical such

1 as PCB's is a reasonably possible cause of cancer you
2 would want a scientifically accurate study involving
3 humans, such as epidemiological studies, is that
4 correct?")

5 A. No, not necessarily, if we had a negative
6 history of no cancers in our workers with PCB's, no case
7 reports of cancer in our PCB, in our PCB customers, I
8 would consider that information that would not cause me to
9 pay too much reliance on animal testing.

10 Q. (By Mr. Race) Not sure if I understood that;
11 so let me ask again.

12 A. What?

13 Q. Let me ask again, okay. Would you -- You
14 would inform your customers if you thought it was
15 reasonably possible that a chemical would cause cancer,
16 correct, let's start there?

17 A. Reasonably likely that it would cause cancer
18 in his workers, yes.

19 Q. Okay. And I'm talking about what's that
20 reasonable likeliness, okay. If you had animal studies
21 which showed carcinogenic tumors?

22 A. Well, it causes cancers, is that what you're
23 saying?

24 Q. Yes.

25 MS. RUTTER: Objection, asked and answered,

1 you have gone over animal studies.

2 Q. (By Mr. Race) Would you inform your
3 customer?

4 A. Not necessarily.

5 Q. Okay. Well, that's not threshold yet?

6 A. What?

7 Q. Now if you had animal studies then what other
8 elements would be necessary in order to make -- alert your
9 customers of a possible connection between a chemical such
10 as PCB and cancer?

11 A. I would have to know the relevancy of the
12 doseage to the animals and the exposure of the workers to
13 the product.

14 Q. Do you have any information as to what the
15 Westinghouse employees' exposure was before 1970?

16 A. No, I do not.

17 Q. Not at all, no, you do not, okay.

18 A. Well, I'll have to qualify that some.

19 Although I do not know the exposure but I do know that I
20 have talked to medical personnel at Westinghouse, at GE,
21 and they told -- I was told that they had no problems with
22 PCB workers; there were no case reports of even chloracne
23 in the literature in the Westinghouse or GE workers who
24 are by far the largest users of PCB's.

25 Q. Chloracne is not the first sign of PCB

1 exposure, is it?

2 A. Apart from the acute exposures chloracne is
3 believed by many to be the hallmark of PCB exposure,
4 overexposure.

5 Q. Is it not true that you can have chronic PCB
6 exposure and not have chloracne and yet have systemic
7 injury?

8 A. I believe that's been reported in humans.

9 Q. So it is your position or had been your
10 position up to 1974 that before you had a systemic injury
11 you would have noted chloracne?

12 A. That's correct, not only mine but an awful
13 lot of workers in the field also.

14 Q. And chloracne is more often than not the
15 result of an acute exposure?

16 A. No.

17 Q. Of a chronic exposure?

18 A. Yes.

19 Q. And just so we're on the same page here,
20 chronic means over a period of time, acute means at one
21 interval in time, is that correct?

22 A. That's correct.

23 Q. So the information that you had gotten on the
24 Westinghouse employees as far as their utilization of the
25 PCB's was not physically how they utilized PCB's but

1 rather the information that you got from the medical
2 personnel indicating an absence of chloracne, is that
3 correct?

4 A. That's correct, absence of chloracne or any
5 systemic illness.

6 MR. RACE: Why don't we take a little five
7 minute break, is that okay?

8 (Whereupon, a short break was taken.)

9 Q. (By Mr. Race) Dr. Kelly, in a document which
10 appears to be -- concerns information which will be
11 related to customers and the government -- Okay, let me do
12 it this way, Carol, so I can grab the document, okay. Do
13 you recognize that handwriting at all or the author of
14 that document?

15 A. No, I do not recognize the handwriting.

16 Q. Have you ever seen that document?

17 A. It was in a pile given to me this morning. I
18 certainly didn't go through it very exhaustively, that's
19 the only time I ever saw it.

20 Q. Okay. There are some names which appear to
21 be written on the documents, Mitchell, do you know Mr.
22 Mitchell?

23 MS. RUTTER: Counsel, just a moment, I want a
24 moment to look at the document.

25 THE WITNESS: Is there a date on it?

1 MR. RACE: No.

2 Q. (By Mr. Race) Okay, let me ask you a bit
3 about some of the names that appear in this, on the first
4 page, four, Cary or Cory. Do you know any Cory up at
5 Westinghouse?

6 A. Beg pardon?

7 Q. Cory, is that name familiar to you at all?

8 A. Where is he supposed to have worked?

9 Q. I don't know, I mean, the only thing I know
10 about this document is it was produced from 130,000
11 documents that Monsanto produced. It's a handwritten note
12 and I have some names on it and I don't know anything more
13 than that; if you could possibly help me by identifying
14 any of the individuals on the document that's what I am
15 asking, okay?

16 A. Yes.

17 Q. So you don't know Mr. Cory?

18 A. No.

19 Q. They have a name of H.E.W. Mitchell on about
20 the fifth page in, I assume that's H.E W., government
21 organization. Mitchell, does that ring a bell for you?

22 A. No, it does not.

23 Q. Okay. Two pages back from that, C.E.Q.
24 Davis, EPA, do you recognize any of the names on that
25 page, two pages back with the names on the top?

1 A. I sure don't.

2 Q. Okay. Wallace, is that a name that you are
3 familiar with during your employment at Monsanto?

4 A. No, sir.

5 Q. Ralph Straud, S-t-r-a-u-d, you've glanced at
6 this document since, you have been looking at this
7 document for five minutes; do you recognize anything in
8 that document?

9 A. I sure don't.

10 Q. Okay. Fine, let's move on. Okay, I'm going
11 to hand you a document which appears to be a typewritten
12 note without a cover letter. It says in the conversation
13 with Larry Marion, Washington bureau of Business Week --"
14 Do you recognize anything, any names or recognize the
15 author or to whom this document was directed at any point?

16 MS. RUTTER: Is there a date on this
17 document, Counsel?

18 MR. RACE: No.

19 A. Well, I recognize Roush's name. He was my
20 successor, Harbison was president, I don't know what he
21 was, whenever this document was written, doesn't seem to
22 be any date on it.

23 Q. Okay. Roush and Harbison. Okay, I'm going
24 to attach that as Exhibit No. 1.

25 (Whereupon, Plaintiff's Deposition Exhibit No. 1

1 was marked for identification.)

2 Q. Who is Roush?

3 A. He was a medical doctor who succeeded me as
4 medical director.

5 Q. Okay. So he became medical director in 1974
6 upon your retirement?

7 A. That's right, retired about three years ago.

8 Q. On some of these documents we have
9 confidentiality document, what's the meaning of
10 confidentiality?

11 MS. RUTTER: Objection, beyond the scope, and
12 you're asking it without reference to a particular
13 document.

14 MR. RACE: Well, we'll find one. Okay, here
15 you go.

16 Q. (By Mr. Race) Okay. In the context of this
17 document, is this recognized as a Monsanto document?

18 A. I haven't seen it yet.

19 MS. RUTTER: We're reading it, Counsel. Take
20 a minute to look at the document.

21 A. Yes, this is an internal document.

22 Q. (By Mr. Race) Why would such a document be
23 marked confidential?

24 A. I don't know.

25 Q. What was Monsanto's policy with respect to

1 marking documents confidential?

2 MS. RUTTER: Objection, beyond the scope of
3 the designation.

4 Q. (By Mr. Race) Subject to the objection you
5 can answer that. Can you answer that?

6 A. Do I answer?

7 MS. RUTTER: I think it calls for speculation
8 and conjecture.

9 MR. RACE: Well, he's a corporate designee,
10 prior to the Monsanto hierarchy, I would assume that he
11 would be privy to such knowledge. If he is not he can
12 tell me.

13 MS. RUTTER: Counsel, this area of inquiry is
14 totally beyond the corporate designation.

15 MR. RACE: No, I'm handing him documents that
16 reflect in some cases representations made to government
17 bodies, they represent contamination of PCB products and
18 the documents that so reflects that information is
19 relevant to the inquiry is marked confidential; so I'm
20 asking about the document that talks about information
21 that will ultimately be disseminated to the government.

22 Q. (By Mr. Race) Just tell me why it's
23 confidential, if you know.

24 MS. RUTTER: You may answer.

25 Q. (By Mr. Race) Why would such a document be

1 marked --

2 A. I don't know.

3 Q. You don't know the policies of Monsanto as
4 far as delineating a document confidential?

5 A. No, I do not.

6 Q. You say this is an internal committee?

7 A. Correct.

8 Q. Internal memorandum, is these it, Bergen and
9 Springate, are these Monsanto employees?

10 A. Yes, they are.

11 Q. In which capacity?

12 A. They are in the marketing aspect of
13 functional fluids.

14 Q. Which would include PCB's?

15 A. That's correct.

16 Q. And Farrar, Hodges, John, Richard and
17 Wheeler, Wheeler was in the --

18 A. In the medical department.

19 Q. Medical department, what about Richard,
20 Richard was also in the medical department?

21 A. No, he was in research department, he was a
22 Ph.D., Farrar was in research.

23 Q. Now what was the ad hoc committee?

24 A. I think it was a group that they just got
25 together to follow the problem with the PCB's because it

1 had touched on public relations, it touched legal, it
2 touched on the medical department, it touched on
3 marketing, and so I think they got representatives from
4 those four groups.

5 Q. Was there a representative from the legal
6 department in this group?

7 A. I don't believe so on this. There's a PR
8 fellow, John.

9 Q. How big was your legal department?

10 A. In '69?

11 MS. RUTTER: Objection, what's the -- What
12 topic is this relevant to, Counsel?

13 MR. RACE: Insofar as he said that these
14 documents that touched upon departments, these department
15 got together, I want to know the size of the departments.

16 MS. RUTTER: Counsel, I started out
17 objecting, this document appears to be very attenuated
18 from any of the designations. The questions you are
19 asking now are the types of questions that since they
20 weren't on your corporate designation should be directed
21 to a witness in a personal capacity. We've discussed at
22 length off the record that it is inappropriate in a
23 corporate deposition for you to jump back and forth
24 between corporate and personal because it will confuse
25 things incredibly.

1 Dr. Kelly, I'm going to allow a few more questions
2 along this line, but Counsel, unless you're --

3 Q. (By Mr. Race) Just that last question,
4 Doctor, and we can move on. How big was the corporate or
5 legal department in '69?

6 A. In '69 probably twenty. That's a pretty
7 rough guess.

8 Q. How big was your medical department in '69?

9 A. About eight.

10 Q. Now I'll mark this as Plaintiff's Exhibit No.
11 2.

12 (Whereupon, Plaintiff's Deposition Exhibit No. 2
13 was marked for identification.)

14 Q. As part of IBT's testing did you review the
15 Kimbrough slides?

16 A. No, I -- I did not.

17 Q. Did you have the Kimbrough slides reviewed?

18 A. Yes.

19 Q. Now for the jury, for the sake of the jury,
20 Kimbrough was a researcher who had done a chronic two year
21 study with rats and found tumors in the liver, is that
22 correct?

23 A. That is correct, which she called tumors of
24 the liver.

25 Q. And did you cause those slides to be reviewed

1 by anybody on behalf of Monsanto?

2 A. Either -- yes.

3 Q. Was that Dr. Richard, Dr. Gordon and Dr.
4 Poor?

5 A. Yes.

6 Q. And Dr. Calandra as well?

7 A. I don't know if Calandra saw the slides.

8 Gordon was his pathologist, Poor was the independent
9 pathologist.

10 Q. And is it not true that Dr. Richter and Dr.
11 Gardner were of the opinion that the Kimbrough slides does
12 in fact show cancer tumors of the liver?

13 A. Did or did not?

14 Q. Did?

15 A. Which people.

16 Q. Gardener and Richter?

17 A. I don't know if I saw those reports, they
18 came back by the time I left or not.

19 Q. But Dr. Poor did not, is that correct?

20 A. He did not find the number that she found.

21 She found something like 175 out of 200, and he did not.

22 He found -- We're getting into a very involved discussion
23 about liver pathology because they changed the ground
24 rules around that particular time.

25 Q. Whether there's metastasis.

1 A. Beg your pardon? There were never any
2 metastases; but whether or not they were having a
3 regeneration of liver cells and some people called that a
4 new growth or a tumor, they may have called it a cancer,
5 whereas I don't know who Wittgen was, W-i-t-t-g-e-n, I
6 believe, we sent them, we sent the government our slides
7 and Kimbrough sent us her slides and I'm not sure. I have
8 never seen the results from the government on our slides.
9 Eventually I think they came but that was after I left.
10 Poor found something like six cases of he may have called
11 malignancy, but he hedged pretty much on it.

12 Q. Okay, so isn't it true that Richter and
13 Gardner of --

14 A. Did you say Richter?

15 Q. Richter, R-i-c-h-t-e-r, and Gardner,
16 concurred with Dr. Kimbrough in her findings, is that a
17 fair statement?

18 MS. RUTTER: Objection, asked and answered,
19 Dr. Kelly testified that he believed that any statements
20 made by Drs. Richter and are you saying Gardner.

21 MR. RACE: I think it's Gardner, Gordon.

22 MS. RUTTER: I don't recognize that name.

23 Q. (By Mr. Race) Who's the other pathologist?

24 A. There was Keplinger and Gordon.

25 Q. So it was Richter and Gordon concurred with

1 Dr. Kimbrough's findings as to tumors found in the livers,
2 is that not correct?

3 MS. RUTTER: Objection, asked and answered
4 and I believe he's indicated that anything they said was
5 after his time.

6 A. I never saw their reports.

7 Q. (By Mr. Race) Is it also not true, Doctor,
8 that Dr. Poor disputed Kimbrough's findings?

9 A. Yes, he did.

10 Q. Is it also not true that the only report that
11 Monsanto caused to be published was the report of Dr.
12 Poor?

13 A. I don't know.

14 Q. Do you know whether Dr. Poor refused to have
15 his report on the Kimbrough studies peer reviewed?

16 A. I don't know.

17 Q. Would you put any weight in articles that are
18 not peer reviewed?

19 A. Well, it depends on the author, in other
20 words, Poor is an expert, he's the head pathologist at
21 this Eppley Institute at the University of Nebraska which
22 is a well-known cancer institution. So I don't think he
23 had to have a peer review all that, this was really not an
24 article, he just gave us an opinion on what the slides
25 were.

1 (Whereupon, a lunch break was taken.)

2 Q. For the sake of the jury should this ever
3 about read to the jury, could you explain who is Dr.
4 Calandra?

5 A. Dr. Calandra is a Ph.D./M.D. who was the
6 president of Industrial Bio-test Laboratory, he founded
7 and he remained with it until it folded.

8 Q. Okay. And once again, IBT or Bio-test --

9 A. Industrial Bio-test Laboratory.

10 Q. Were the laboratories that were used by
11 Monsanto in conducting their initial chronic studies in
12 '69, right?

13 A. Right.

14 Q. And who once again for the sake of the jury
15 was Dr. Gordon --

16 A. He was a pathologist in the laboratory. I
17 don't know if he was a veterinary or an M.D., but he's a
18 pathologist.

19 Q. And that's a pathologist at IBT, is that
20 correct?

21 A. IBT.

22 Q. And then Dr. Richter?

23 A. I'm not sure. I recall the name but I don't
24 know what he was doing.

25 Q. Now part of your responsibilities were to

1 draft warnings for PCB, is that correct?

2 A. That's correct.

3 Q. I would like for you to review -- Well,
4 actually, I'll tell you what I want to ask on these. The
5 years of these particular publications if you know, they
6 are not on there, I'm not going to ask you any detailed
7 questions about those publications but if you can
8 enlighten me as to the years?

9 A. Well, this one, the only way I could tell is
10 by the name, they call it Monsanto Chemical Company and I
11 really don't -- It's a pretty old one, but I don't know.

12 Q. How old?

13 A. Gosh, I don't know. They changed the name
14 from Monsanto Chemical Company to Monsanto Company, so
15 I --

16 Q. So you don't have any distinct recollection
17 of that which I have handed and which has been previously
18 marked as Plaintiff's 196?

19 A. No, I do not.

20 MS. RUTTER: Objection, mischaracterizes his
21 prior testimony. You are saying he doesn't have any
22 recollection at all of the manual, you were asking him
23 about the date.

24 Q. (By Mr. Race) The date, do you have any
25 recollection of the manual itself?

1 A. No, I don't. I mean, I've seen it at some
2 time, but I have --

3 Q. No independent recollection of this manual?

4 A. Beg your pardon?

5 Q. No independent recollection of what's
6 contained in this manual?

7 A. No.

8 MR. RACE: Carol, can you give him the next
9 one so I can keep them in order.

10 MS. RUTTER: Sure.

11 MR. WUNDERLICH: Off the record.

12 (Whereupon, a discussion was held off the record.)

13 Q. (By Mr. Race) Do you recall the dates,
14 that's primarily what I am looking at, okay?

15 A. This was sometime after 1956, that's all I
16 can tell you.

17 Q. Do you know that one that you are now holding
18 which is entitled --

19 A. Transformer Askarel Inspection and
20 Maintenance Guide.

21 Q. Okay. They are all called Maintenance and --
22 Inspection and Maintenance Guides, it's bulletin ICF 38
23 written at the top; that's sometime after 1956?

24 A. '56.

25 Q. Up until 1974, is that correct?

1 A. Could be any time after that; I don't know.

2 Q. Okay, next one?

3 MS. RUTTER: It's that one.

4 MR. RACE: Can we keep them in order, Carol.

5 MS. RUTTER: I'm attempting to, I don't think
6 I'm going to disorder them.

7 MR. RACE: Because I do a bad enough job.

8 Q. (By Mr. Race) You're looking at Monsanto
9 Askarel Inspection and Maintenance Guides previously
10 marked as Plaintiff's Exhibit 174?

11 A. Yes.

12 Q. Do you know the date on that one?

13 A. Do I know what?

14 Q. Do you know the date or time frame on that?

15 A. Still it's anywhere after 1956.

16 Q. Anywhere from 1956 to present?

17 A. Yes.

18 Q. Plaintiff's -- it's the Monsanto once again
19 Askarel Inspection and Maintenance Guide or Operations and
20 Maintenance Guide previously identified as Plaintiff's
21 Exhibit 173; do you know what the date of this publication
22 is?

23 A. Not any closer than after 1956.

24 Q. Just after '56, so you say after '56, what
25 makes you give that determination?

1 A. Because they moved their headquarters from
2 South Second Street out to --

3 Q. 800 North Lindbergh?

4 A. Lindbergh, and they called themselves the
5 Monsanto Company rather than the Monsanto Chemical
6 Company.

7 Q. So before 1956 it was Monsanto Company?

8 A. Right.

9 Q. And after '56 it was Monsanto Chemical
10 Company?

11 A. Yes, but also --

12 MS. RUTTER: Objection, I think you just
13 reversed.

14 Q. (By Mr. Race) Before Monsanto --

15 A. It was Monsanto Chemical Company, then they
16 changed it to Monsanto Company, and then they, when they
17 broke it up into separate divisions I think they went back
18 to Monsanto Chemical Company for one group of their
19 compounds.

20 Q. So before 1956 it was Monsanto Chemical
21 Company?

22 MS. RUTTER: Objection, I think he said that
23 date was approximate.

24 Q. (By Mr. Race) After 1956 at some point it
25 was Monsanto Company?

1 A. Right.

2 Q. And then later on it went back to Monsanto
3 Chemical Company, a portion of it?

4 A. No, they still kept it Monsanto Company, but
5 they had Monsanto Chemical Company, Monsanto Plastics
6 Company?

7 MS. RUTTER: And just for whatever it's worth
8 on the record, Exhibit 173 refers to Monsanto Chemical
9 Company at 800 North Lindbergh Boulevard.

10 MR. RACE: Right.

11 Q. (By Mr. Race) Monsanto Chemical Company, I'm
12 getting confused, okay, that which has previously about
13 marked as Plaintiff's Exhibit 151, Aroclors, can you give
14 me approximate date?

15 A. Just the same as the last three.

16 Q. After 1956?

17 A. Right.

18 Q. Do you recognize any of these particular
19 brochures?

20 A. Beg pardon?

21 Q. Do you recognize this brochure which is
22 previously marked as Plaintiff's Exhibit 121?

23 A. I think I have seen it.

24 Q. Did you have any input into this brochure?

25 A. No, sir, with the exception of personal

1 protection and toxicology.

2 Q. Insofar as these brochures contained any
3 warnings it would be you that would have drafted the
4 warnings, is that correct?

5 A. That's correct.

6 Q. Let's look at that which has been previously
7 marked as Plaintiff's Exhibit No. 118, can you give me an
8 indication of the period of time for this one?

9 A. That's before 1956.

10 Q. Okay. Because at that point it's marked
11 Monsanto Chemical Company, it's a post office box, is that
12 correct?

13 A. That's correct, a different address than the
14 headquarters.

15 Q. Now the brochure which is now marked
16 Plaintiff's Exhibit 111, the Aroclor Physical Properties
17 and Suggested Applications, can you give me an indication
18 of its date of origin?

19 A. Oh, that still shows the old terminology of
20 the company and it shows the headquarters on South Second
21 Street rather than out at Lindbergh.

22 Q. So this would be before 1956?

23 A. That's right.

24 Q. Okay. The Care and Grooming of Askarel
25 Transformer Fluids, Plaintiff had previously had marked

1 Plaintiff's Exhibit 197, can you give me an indication of
2 when that was?

3 A. That's probably early also.

4 Q. Prior to 1956?

5 A. 1956, because they called themselves Monsanto
6 Chemical Company.

7 Q. Okay. The next one is Askarel Inspection and
8 Maintenance Guide previously identified as Plaintiff's
9 Exhibit 180, that would be post-'56?

10 A. That's after '56.

11 MS. RUTTER: For the record, I would like the
12 record to reflect that Plaintiff's Exhibit 180 states on
13 the face of it, revised August, 1976.

14 THE WITNESS: Revised.

15 MR. RACE: Just for the record I'd like to
16 state that after 1956 includes 1976.

17 MS. RUTTER: For once, Counsel, I agree with
18 you.

19 (Whereupon, a discussion was held off the record.)

20 Q. (By Mr. Race) Okay. I'm handing you a
21 document entitled Toxicology and Safe Handling, Monsanto
22 Aroclors, can you give me approximate date on the origin
23 of this particular document?

24 A. I don't know when this was, because I'm not
25 even sure that I saw that. It could be after '74 as far

1 as I know.

2 Q. You have no independent recollection of
3 drafting or editing any of the information contained in
4 that document?

5 A. That's correct.

6 Q. Did you have occasion to inspect the Monsanto
7 facilities?

8 A. Oh, yes.

9 Q. And did you note that the workers' shoes if
10 unprotected would rot or otherwise be effected by PCB's?

11 A. It all depends on what the shoe material was.
12 If it was neoprene it would not be, if it were leather or
13 rubber it would.

14 Q. So from that you could ascertain that PCB's
15 chemically reacted with leather or rubber; is that right?

16 A. That's right.

17 Q. And as a safety precaution booties were
18 issued to the Monsanto workers ears by Monsanto, is that
19 correct?

20 A. I can't be sure of that.

21 Q. Was there any protective garment issued to
22 protect the workers' shoes that was issued by Monsanto?

23 A. I think they to the best of my recollection I
24 thought they provided the shoes.

25 MS. RUTTER: Counsel, for the record, I don't

1 see this area specified on your corporate designation
2 list.

3 MR. RACE: Off the record.

4 (Whereupon, a discussion was held off the record.)

5 Q. (By Mr. Race) In warning for the use of
6 PCB's you took particular concern as to whether or not the
7 PCB's were heated, is that not correct?

8 A. That was one of the two main points; one
9 would be that exposure through the skin, the other that
10 breathing in at elevated temperatures.

11 Q. What was it about the elevated temperatures
12 that would cause the material to be of greater concern?

13 A. Well, more of the fluid would turn into a
14 vapor at elevated temperatures.

15 Q. Was it a matter of the chemical composition
16 of PCB's being altered with elevated temperatures?

17 A. No, no, it's just like water doesn't give off
18 steam unless you heat it, then it will give off steam.

19 Q. So your concern was for the elevation was
20 vapor as opposed to the changes in chemical composition of
21 PCB's?

22 A. That's correct.

23 Q. Now when you drafted warnings and talked
24 about warning both Monsanto employees and Westinghouse
25 employees did you give any concern as to possible

1 contaminants in the PCB's?

2 A. When?

3 Q. Prior to 1974?

4 A. Well, we had a supervisor -- We had sometime
5 around 1970 we understood that there was a possibility of
6 chlorinated benzofurans in the PCB's, some work done in
7 Sweden showed it was present, these contaminants were
8 present in European PCB's, but they were not found to the
9 best of my knowledge in our material until I retired,
10 until after I retired.

11 Q. What's your appreciation of relative toxicity
12 between PCB's and furans?

13 A. Furans are much, much more toxic.

14 Q. Do you know whether or not furans were
15 considered to be carcinogenic?

16 A. I can't hear you.

17 Q. Whether they were ever considered to be
18 carcinogenic?

19 A. I don't think so.

20 Q. What about dioxin?

21 MS. RUTTER: Objection, asked and answered.

22 MR. RACE: We've already gone over that.

23 MS. RUTTER: We've already done that.

24 Q. (By Mr. Race) Did you ever give any
25 consideration in forming any opinions as to whether or not

1 the PCB's had been contaminated with dioxin?

2 MS. RUTTER: I object to the form of the
3 question. I think you misspoke and it was confusing, you
4 said, "Did you ever give any consideration in formulating
5 opinions?" Is that what you meant to say.

6 Q. (By Mr. Race) Did you ever give
7 consideration when formulating opinions -- Let's strike
8 the last question and I'll try it again, I'm not sure what
9 I said now. Did you give any consideration when forming
10 opinions, when forming warnings of possible dioxin
11 contamination in PCB's?

12 A. Yes, I did, and it was my impression and in
13 fact my belief that dioxins could not be formed from
14 PCB's.

15 Q. Under any circumstances?

16 A. PCB's, under any circumstances.

17 Q. Is that belief premised on the absence of
18 chlorinated benzenes in the PCB's?

19 A. We're talking just about PCB's, we are not
20 talking about trichlorobenzene and PCB's, that's a
21 different ball game.

22 Q. I'm talking now about Inerteen, the product
23 that was provided to Westinghouse?

24 A. Well, that's a different horse.

25 Q. Yes, now let's talk about that horse.

1 MS. RUTTER: Well, for the record a different
2 corporate designee has been designated to talk about that
3 horse.

4 MR. RACE: Well no, insofar as his warnings
5 and I want to know what he's warning about, and I want to
6 know whether or not in formulating his warnings there was
7 an issue of contaminants. Now whether or not there was
8 contaminants in there and the composition of Inerteen we
9 can talk to Papageorge about that; but I'd like to know
10 what his beliefs were prior to drafting the warnings which
11 may or may not have been provided to Westinghouse; so it's
12 on the warnings issue.

13 Q. (By Mr. Race) So could you -- Did you have
14 any belief as to whether PCB's were in the Inerteen
15 supplied to Westinghouse?

16 A. PCB's were certainly in the Inerteen, yes.

17 Q. Okay. Well, we got one compound, did you
18 have any belief as to whether dioxin was in the Inerteen
19 provided to Westinghouse?

20 A. I did not know that dioxin was in the
21 Inerteen. I did know that under certain thermal
22 conditions that dioxin, that dioxin could be formed at a
23 particular window of either six to eight hundred degrees
24 Fahrenheit and after it could be formed in that window and
25 after the temperature passed that it could be destroyed.

1 Q. And six hundred to eight hundred degrees are
2 temperatures that can be reached when soldering or welding
3 on the containers?

4 MS. RUTTER: Objection, he's not designated
5 in that area.

6 Q. (By Mr. Race) Did you give any consideration
7 to whether additional warnings were warranted because of a
8 possibly dioxin contaminant in the Inerteen provided to
9 Westinghouse?

10 MS. RUTTER: Objection, assumes facts that
11 are not and will not be in evidence.

12 But you may answer the question.

13 A. I forgot the question.

14 MR. RACE: Could you read it back, I forget.

15 (Reporter read back from the record as directed:

16 "Q. (By Mr. Race) Did you give any
17 consideration to whether additional warnings were
18 warranted because of a possibly dioxin contaminant in the
19 Inerteen provided to Westinghouse?"

20 A. No, because we tested the entire material
21 itself and the amount of dioxin that might have been
22 present was part of the fluid that we tested and it did
23 not alter the toxicity characteristics of the fluid. It's
24 just as though if you were -- if carrots were poisonous,
25 more poisonous than the soup and you tested the soup with

1 the carrots in, you've got a toxicity evaluation of the
2 whole product itself, that's what we did, we tested the
3 Inerteen whether it had dioxin in it or not.

4 Q. So you tested Inerteen for dioxin when it
5 left Monsanto?

6 A. No.

7 MS. RUTTER: Objection to that,
8 mischaracterizes prior testimony and --

9 MR. RACE: Let me rephrase it.

10 MS. RUTTER: Counsel, on the record Mr.
11 Papageorge --

12 MR. RACE: Is going to talk about Inerteen.

13 MS. RUTTER: And Dr. Kaley are the designees
14 in this area.

15 A. But we did not test for dioxin, we tested the
16 toxicity of the Inerteen with whatever dioxin was in
17 there.

18 Q. (By Mr. Race) Okay. And that was at
19 Monsanto?

20 A. Yes.

21 Q. Would a different type of warning be
22 necessary for compounds containing dioxin?

23 A. It depends how much dioxin was in the
24 material. It would depend on the toxicity of the product
25 with this larger amount of dioxin in it.

1 Q. So your answer is under certain
2 circumstances, yes?

3 MS. RUTTER: Objection, mischaracterizes his
4 prior testimony.

5 Q. (By Mr. Race) Subject to the objection, is
6 that correct? You can answer.

7 THE WITNESS: Am I answering?

8 MS. RUTTER: You may answer if you remember
9 the question and answer sequence.

10 MS. RUTTER: Do you need to have it read
11 back?

12 THE WITNESS: I need to have it read back.

13 (Reporter read back from the record as directed:

14 "Q. Would a different type of warning be
15 necessary for compounds containing dioxin?")

16 Q. (By Mr. Race) Doctor, let me try to repeat
17 this: Under certain circumstances in which dioxin was
18 present in a compound and may be exposed, and may be
19 absorbed by an individual would you agree that it -- that
20 additional warnings would have to be provided than the
21 standard warnings that Monsanto provided with PCB's?

22 MS. RUTTER: I object to the form of the
23 question, it's a hypothetical, it assumes facts that are
24 not and will not be in evidence and it omits necessary
25 facts for the formation of the opinions sought and it

1 calls for speculation and conjecture.

2 Q. (By Mr. Race) Do you remember the question?

3 THE WITNESS: Do I answer?

4 MS. RUTTER: You may answer if you understand
5 it. If you don't understand it, you can ask him to
6 rephrase it.

7 THE WITNESS: Let's hear it back.

8 (Reporter read back from the record as directed:

9 "Q. (By Mr. Race) Doctor, let me try to
10 repeat this: Under certain circumstances in which dioxin
11 was present in a compound and may be exposed, and may be
12 absorbed by an individual would you agree that it -- that
13 additional warnings would have to be provided than the
14 standard warnings that Monsanto provided with PCB's?")

15 A. If there were enough dioxin in the product
16 that the gross toxicity of the product was -- exceeded the
17 toxicity of the material that we commonly shipped then the
18 warnings might have to be stronger; but as I said before
19 when we tested all of the material, whenever dioxin was in
20 there we did not need any extra warnings.

21 Q. Okay. You said the warnings would have to be
22 stronger; what language constitutes stronger warnings?

23 A. Probably a warning instead of caution.

24 Q. Let's get to the gradation here. Caution,
25 warning, danger; is that the stratification of the words

1 utilized in drafting a warning?

2 A. Yes, sir.

3 Q. So the first level is the caution warning?

4 A. Right.

5 Q. Second level is the warning, says the word
6 warning?

7 A. Warning.

8 Q. And third level is danger?

9 A. Right.

10 Q. They increase with the toxicity of the
11 substance?

12 A. Correct.

13 Q. On what category did PCB's fall?

14 A. Caution.

15 Q. That's the lowest category?

16 A. Right.

17 Q. If the dioxin was present in Inerteen to such
18 an extent to increase the toxicity of that substance above
19 a PCB level then you would place the word warning, is that
20 correct?

21 MS. RUTTER: Counsel, for the record are you
22 hypothesizing in your question that PCB's contained
23 dioxins at the time of manufacture?

24 MR. RACE: No.

25 MS. RUTTER: Well, then I'm very confused

1 about what it is you're asking.

2 MR. RACE: I'm saying they may have contained
3 dioxins at the time they were exposed to Mr. Bechtold.

4 MS. RUTTER: I want the question to be clear
5 whether you're talking -- are you talking about warning --
6 I don't understand at what point in time you're asking
7 about the warning labels. Are you talking about --

8 MR. RACE: I'm talking about the warning --

9 Q. (By Mr. Race) When you formulated warnings,
10 when you were director of the medical department and you
11 had three classifications, correct?

12 A. Right.

13 Q. And PCB's fell into the lowest
14 classification?

15 A. Right.

16 Q. Was there any discussion in the department or
17 thought on your part to elevate PCB's at any time from the
18 lowest warning level?

19 A. No, sir.

20 Q. As a matter of fact you used the same basic
21 warning that was used when PCB's were manufactured by
22 someone back in 1935, isn't that correct?

23 A. I do not know what the Swan labels had on it.
24 That was before my time, I just don't know; but they
25 tested and we did these fifty or so, that we ran on PCB's

1 during the decades following the thirties gave us
2 information as to the general toxicity of the product; if
3 there had been any increase in dioxin that would change
4 the toxicity it would have been picked up by our testing.
5 If we saw the warnings and that did not occur the warnings
6 did not have to be changed.

7 Q. And all the fifty tests you did with the
8 exception as you maintain of Treon were acute toxicity
9 tests?

10 A. That's correct.

11 Q. And first chronic toxicity test was conducted
12 by IBT?

13 MS. RUTTER: Objection, mischaracterization.

14 Q. (By Mr. Race) With the exception of how we
15 categorize the Treon study, is that correct, sir?

16 A. Yes.

17 Q. So if we categorize a chronic toxicity study
18 as one which requires a two year period of time then the
19 first toxicity study which was funded or undertaken by
20 Monsanto were the IBT studies in 1969, is that correct?

21 A. Correct.

22 Q. Are you familiar with a J.W. Wigert,
23 W-i-g-e-r-t?

24 A. I don't know. Does he have a title or an
25 address or --

1 Q. Cleveland Works Material and Process
2 engineer?

3 A. I don't have any independent recollection,
4 but if you show me something I may.

5 Q. Do you have an independent recollection of an
6 E.C. Barnes, industrial hygiene engineer?

7 A. E.C. Barnes.

8 Q. Yes, B-a-r-n-e-s?

9 A. Yes, is that the -- That was the Barnes who
10 was an industrial hygienist for Westinghouse.

11 Q. Is chronic poisoning a condition which occurs
12 through prolonged absorption of a material?

13 A. Prolonged or repeated.

14 Q. I'm going to hand you a handwritten note. Do
15 you recognize any names on that handwritten note, if there
16 are any, do you recognize that handwriting?

17 A. No, I do not.

18 Q. Have you ever seen that note previously?

19 A. Beg pardon?

20 Q. Have you ever seen that handwritten note
21 previously?

22 A. I'm looking, not that I know of, not that I
23 can recollect.

24 Q. From the content or any form do you recognize
25 the author or can you give me any identification as to

1 that note?

2 A. Well, there's a date on it, I can see that,
3 10/22/69, but I --

4 Q. You don't know anything other than that's
5 what's written as the date?

6 A. No, sir, I do not.

7 Q. I'm going to hand you a document entitled
8 rough draft, 11/10/69 outlined, "PCB Environmental
9 Pollution Abatement Plan." Do you recognize that document
10 at all? Do you recognize that document at all?

11 A. I think I've seen it, yes, sir.

12 Q. Is this an internal document or a document
13 that was drafted or presented at Monsanto?

14 A. It's a rough draft of an internal document.

15 Q. Of an internal Monsanto document?

16 A. Right.

17 Q. Do you know the author of that document?

18 A. No, I don't, but -- It was going to discuss
19 something about the ad hoc committee, but I don't know
20 who.

21 (Whereupon, Plaintiff's Deposition Exhibit No. 3
22 was marked for identification.)

23 Q. And the purpose of this outline in
24 conjunction with the ad hoc committee was to discuss the
25 problems associated with PCB's being in the environment,

1 is that correct?

2 MS. RUTTER: Objection, Counsel, for the
3 record which area of the designation do you contend this
4 document relates to? I'm concerned about you asking him
5 the purpose of a document that he did not draft.

6 MR. RACE: Okay, insofar as it's things that
7 may be told to the government, things represented to
8 government agencies regarding effects on Monsanto, effects
9 on customers, sources of contamination, implement the
10 recommended courses of action, it has long term which will
11 affect both alternatives and possible alternatives and
12 possible testing.

13 MS. RUTTER: Counsel, I don't see anything in
14 this document that has to do with --

15 MR. RACE: There it is.

16 MS. RUTTER: Where.

17 MR. RACE: Just what areas I read, nature of
18 the problem, source of contaminants which we're talking
19 about.

20 MS. RUTTER: He's not designated on that
21 topic.

22 MR. RACE: Public relations, which would
23 include anything, which would include that which was given
24 to or information provided to the government, I think is
25 the gist of this document.

1 MS. RUTTER: Counsel, I don't think this
2 document has any relation to anything he has designated.

3 MR. RACE: He's designated on representations
4 to government agencies regarding the safety of PCB's, is
5 he not?

6 MS. RUTTER: Where does this document refer
7 to --

8 MR. RACE: Public relations, which I would
9 assume --

10 Q. (By Mr. Race) Doctor, does public relations
11 include which areas representations made to the U.S.
12 government?

13 MS. RUTTER: Objection to the form of the
14 question.

15 A. I couldn't even hear the question.

16 MS. RUTTER: You're asking him to speculate
17 about a document that was authored by --

18 MR. RACE: If he doesn't know, he doesn't
19 know, that's fine.

20 MS. RUTTER: I think you're going very far
21 astray from the topics on which he's designated on on.

22 Q. (By Mr. Race) Do you remember the
23 circumstances in which you viewed this document?

24 A. Which one?

25 Q. In which you viewed this document?

1 A. It was probably shown to me by Elmer Wheeler.

2 Q. And Mr. Wheeler was whom?

3 A. What?

4 Q. Mr. Wheeler was whom?

5 A. He was the medical and corporate.

6 Q. And were you the chairman of the medical that
7 oversaw Mr. Wheeler?

8 A. Yes, he reported to me.

9 Q. And this document was formed as part of
10 the -- what you previously discussed, the ad hoc
11 committee?

12 A. That I don't know, I'll have to see what that
13 says.

14 Q. Do you remember anything else concerning the
15 circumstances surrounding your initial review of this
16 document?

17 A. No, sir, I do not, and it says here on page
18 three or something that they issued a report on October
19 the 15th, this is a rough draft of 11/10 November of the
20 same year.

21 Q. What year was that, 1969?

22 A. '69.

23 Q. What was your connection with the ad hoc
24 committee?

25 A. No direct connection except that Wheeler was

1 the chairman and Wheeler was a member of the medical
2 department.

3 Q. So Wheeler was in the medical department?

4 A. And he reported told me.

5 Q. So you were kept advised as to the action of
6 the ad hoc committee through Dr. Wheeler?

7 A. That's probably true, apparently not through
8 all major actions but I don't think I did not follow the
9 day-by-day activities of the committee.

10 Q. And a report such as outline of PCB
11 Environmental Pollution Abatement Plan would be considered
12 a major action?

13 A. Yes, I think so.

14 Q. So in that context you would have reviewed
15 this?

16 A. Yes.

17 Q. And as the medical department, as the
18 chairman of the medical department and Dr. Wheeler's
19 supervisor if there's anything that you did not disagree
20 with you could have informed Mr. Wheeler, is that correct?

21 MS. RUTTER: Objection to the form of the
22 question, it's vague and confusing.

23 Please listen to it carefully. Could you read it
24 back?

25 (Reporter read back from the record as directed.

1 "Q. And as the medical department, as the
2 chairman of the medical department and Dr. Wheeler's
3 supervisor if there's anything that you did not disagree
4 with you could have informed Mr. Wheeler, is that
5 correct?")

6 (Whereupon, a discussion was held off the record.)

7 MR. RACE: I apologize, I do apologize.

8 A. No problem.

9 Q. (By Mr. Race) As chairman of the department
10 and supervisor of Dr. Wheeler if there was anything that
11 you disagreed with in this report you could have requested
12 its change, is that correct?

13 A. I could have requested; they may not have
14 done it.

15 Q. Do you recall requesting any changes in this
16 draft?

17 A. I don't recall it.

18 Q. Could you again clarify who Dr. J. W. Barrett
19 is?

20 A. I couldn't hear the last word.

21 Q. Barrett?

22 A. Yes, he's -- He was with Monsanto Company,
23 Limited, which is our English subsidiary. I do not know
24 his position, I thought it was research; I'm not sure.

25 Q. Did you ever dissuade or attempt to dissuade

1 Dr. Barrett from conducting any toxicological studies on
2 PCB's?

3 A. Yes.

4 Q. Okay. And why was that?

5 A. Because he wanted to find out what the limit
6 of PCB's would be to kill animals in order to -- and I
7 don't know why he wanted that, because I said, "Look,
8 we've got a safe level, that's what we want to do, why
9 spend money to find an unsafe level?"

10 Q. Was he suggesting acute animal studies?

11 A. No, not acute, I thought it was chronic. It
12 never went any farther than that memorandum of his.

13 Q. So as chronic your appreciation is he wanted
14 to have long term animal studies and after the long term
15 animal studies perform pathology on the organs to see what
16 the effects were?

17 MS. RUTTER: Objection to the form of the
18 question. Counsel is referring to a memo more than forty
19 years ago that Counsel has imprinted --

20 MR. RACE: I'm pointing with my finger,
21 Counsel, don't tell me what I'm referring to. I have got
22 papers all over this desk.

23 MS. RUTTER: You're asking him questions
24 about a memo from forty years ago and you're not doing him
25 the courtesy of showing him the memo.

1 MR. RACE: No, I'm pointing with my finger to
2 this line, Counsel.

3 MR. RACE: Okay.

4 A. Okay, what.

5 Q. (By Mr. Race) Can you answer the question?
6 Of course not, we've got to have it read back.

7 A. Of course not, we need to have it read back.

8 MR. RACE: Fair enough because I can't
9 remember it.

10 (Reporter read back from the record as directed:

11 "Q. So as chronic your appreciation is he
12 wanted to have long term animal studies and after the long
13 term animal studies perform pathology on the organs to see
14 what the effects were?")

15 A. That was not my impression of what he wanted.
16 My impression of what he wanted was: "What is the dose
17 that will harm animals?" Whereas I wanted a dose that
18 animals could be tolerant of; and I said, "What do you
19 want to prove?" and I said, "We have a safe level, what
20 else is needed?" So that's the last I heard of it.

21 Q. (By Mr. Race) When you said there were
22 approximately fifty tests conducted, correct?

23 A. That's correct, I was -- I'm not certain of
24 the number.

25 Q. Fifty acute tests?

1 A. Yes.

2 Q. And they were conducted from 1938
3 continuously until 1970, is that correct?

4 A. That's correct.

5 Q. So you were killing animals continuously from
6 1938 to 1970, wasn't that correct?

7 A. Yes.

8 Q. So even after this 1955 report when you told
9 Dr. Barrett not to kill animals, you and Monsanto were
10 still killing animals?

11 MS. RUTTER: Objection to the form of the
12 question?

13 A. I didn't tell them not to kill animals, I
14 said, "What do you want to prove?"

15 Q. (By Mr. Race) Who conducted these fifty
16 acute toxicity tests?

17 MS. RUTTER: Objection, asked and answered.

18 Go ahead, I was just saying that it was
19 repetitious; but you may go on?

20 A. The Younger Laboratories and Scientific
21 Associates Laboratories, now remember I --

22 Q. Scientific was the first one and then it
23 split off and then it was Younger and then you went with
24 Younger?

25 A. More or less.

1 Q. More with Younger than with Scientific
2 Associates?

3 A. But my fifty was an approximation, I was not
4 sure of it.

5 Q. Was there anyone other than Scientific and
6 Younger that conducted acute animal toxicity studies on
7 behalf of Monsanto?

8 A. No, sir.

9 Q. Who was it at acute -- Younger or at
10 Scientific, Younger?

11 A. Who was it?

12 Q. Who was the individual that you contacted?

13 A. Fred Younger was the man at Younger, I forget
14 the name of the man at Scientific Associates.

15 Q. Did they produce documentation on each of
16 these toxicity studies?

17 A. Yes.

18 Q. Would that much documentation be in
19 Monsanto's files?

20 A. They were when I left.

21 MS. RUTTER: Counsel, it's my belief that
22 those test reports were produced to you.

23 MR. RACE: All fifty of those test reports.

24 MS. RUTTER: He said that was a rough
25 approximation and he made it clear that he was giving a

1 guess. We have produced, it's my understanding we have
2 produced what there is, I'm assuming you asked for them
3 and I assume we produced them.

4 MR. RACE: I'm assuming we only got six of
5 the fifty.

6 MS. RUTTER: I don't know what you asked for,
7 Counsel.

8 Q. (By Mr. Race) Could you explain to me,
9 Doctor, why fifty acute toxicity tests were performed?

10 A. Yes, we had varied formulations, we had a
11 sort of a quality control on our manufacture operation, by
12 running a toxicity and we had customers writing in asking
13 us about toxicity of various PCB's.

14 Q. And so you continuously ran the acute
15 toxicity tests?

16 A. I can't hear you.

17 Q. Then you continuously ran the acute toxicity
18 tests, fifty of them?

19 MS. RUTTER: Objection, mischaracterizes.

20 Q. (By Mr. Race) And never did you conduct a
21 chronic toxicity test?

22 MS. RUTTER: Objection, mischaracterizes his
23 prior testimony. You have been over this area now three
24 or four different times.

25 Q. (By Mr. Race) Are you familiar with the

1 Handbook of Dangerous Materials?

2 A. What did you say?

3 Q. Are you familiar with the Handbook of
4 Dangerous Materials?

5 A. Yes, I am.

6 Q. Is that a guide that's utilized in the
7 medical profession concerning the toxicity of chemicals?

8 A. What was your verb?

9 Q. Used as a guide?

10 A. I don't believe it's used by anybody of any
11 scientific bent. Sachs is a person who does not do his
12 own work, he compiles stuff of various tests that he sees
13 in the literature. I do not think it is held up as gospel
14 in the toxicological field.

15 Q. Doctor, I'm going to hand you a handwritten
16 note from stationery of Industrial Biotech, dated January
17 14th, 1972, saying, "Dear Don," and signed, "Sincerely,
18 Otis." Do you know who either the Don or the Otis are?

19 A. First of all, if this is Dear Dad or Dear
20 Don, I don't know either one.

21 Q. And Otis, do you recognize Mr. Otis?

22 A. Beg your pardon.

23 Q. Otis, do you recognize Otis?

24 A. Yes, Otis Fancher, he was one of the
25 administrators of Industrial Bio-test Laboratories.

1 Q. And Dr. Thatcher --

2 A. Fancher, F-a-n-c-h-e-r.

3 Q. Okay. But you don't know to whom the letter
4 is directed?

5 A. I didn't hear you.

6 Q. You don't know to whom that letter is
7 directed?

8 A. No, I don't. In fact I don't even know if
9 it's -- is it Dad or Dod or David, I just don't know.

10 Q. Do you know who L.A. Watt is?

11 A. I'm sure it's who he was.

12 Q. Okay. Could you tell me who Mr. L.A. Watt
13 was?

14 A. He was a person who was in charge of
15 technical service for the organic division of Monsanto
16 Chemical Company.

17 Q. Do you recognize a memo from L.A. Watt dated
18 October 11, 1937?

19 A. Yes, I do.

20 Q. And you're the Dr. Kelly referred to in that
21 memo?

22 A. Yes.

23 MS. RUTTER: What Exhibit number are we on?

24 MR. RACE: No. 4.

25 MR. WUNDERLICH: Number what?

1 MR. RACE: 4.

2 (Whereupon, Plaintiff's Deposition Exhibit No. 4
3 was marked for identification.)

4 Q. (By Mr. Race) Are you familiar with a
5 publication which appeared in 1947 called the Chemist
6 Analyst?

7 A. No, I am not.

8 Q. Are you familiar at all with that
9 publication, the name of it?

10 A. Beg pardon?

11 Q. The name of it?

12 A. The Chemist Analyst, September 1947, and this
13 is by an industrial hygienist of the city of St. Louis,
14 talking about the toxicity of Aroclors.

15 Q. Are you familiar with that publication?

16 A. Beg pardon?

17 Q. You're not familiar with that publication?

18 A. No, but I've read the memorandum.

19 Q. You've read the article?

20 A. I don't know if that's the whole article I
21 have, that looked like a letter to the editor or
22 something.

23 Q. Well, having read it I will attach this
24 Exhibit No. 5.

25 (Whereupon, Plaintiff's Deposition Exhibit No. 5

1 was marked for identification.)

2 Q. Who is A. Mather, M-a-t-h-e-r?

3 A. If he is who I remember he is, a person at
4 our English subsidiary, Monsanto Chemicals, Limited, but
5 I'm not sure what his position was.

6 Q. And P.C. Hayward, Haywood, excuse me?

7 A. I don't recall.

8 Q. Do you recognize that document?

9 A. Yes, sir.

10 Q. Okay, you do recognize that document?

11 A. Yes, I do.

12 Q. Okay. Do you know who that was directed to,
13 Mr. Haywood?

14 A. Beg your pardon?

15 Q. Are you familiar with Mr. Haywood now?

16 A. Yes.

17 Q. Who is Mr. Haywood?

18 A. Did it say he's in Australia.

19 Q. Newport?

20 A. Oh, Newport, that's in England, that's in
21 Wales, but Mr. Mather is wrong about almost in every
22 paragraph.

23 Q. Okay. But so Mr. Mather is a Monsanto, Inc.,
24 Great Britain employee, correct?

25 A. That's correct.

1 Q. And Mr. Haywood is a Monsanto, Great Britain
2 employee?

3 A. That's correct.

4 Q. And this is an internal memo between two
5 Monsanto employees in Great Britain?

6 A. That's correct.

7 Q. That's Exhibit 6. What is a come-clean type
8 of label?

9 A. What is the come-clean.

10 Q. Type of warning that was placed on --

11 A. I don't know if I have ever heard of it. I
12 don't know. I mean, the information seems to be quite
13 solid on this statement, "Avoid prolonged or repeated
14 contact with the skin, avoid prolonged breathing of vapor
15 or fumes."

16 Q. How long is prolonged if you read this?

17 A. I think that's a judgement call by the
18 individual.

19 Q. So prolonged is left up to the interpretation
20 of the individual, is that correct?

21 A. I think so. It certainly has worked because
22 as I said we didn't have any problems.

23 Q. Who is J. R. Kellogg?

24 A. I don't know.

25 Q. And what about Mr. D.T. Mayer?

1 A. I don't know who he is. He's at the East St.
2 Louis plant or the Monsanto, Illinois plant.

3 Q. Okay. Is this a -- Are you to be CC'd on
4 this, is this you?

5 A. That's I, I'm the third person.

6 MS. RUTTER: Is that R.E. Kelly?

7 MR. RACE: I don't know.

8 A. Well, it looks like -- Oh, I'm sure it's I,
9 though.

10 Q. (By Mr. Race) Have you ever seen this
11 document before?

12 A. I don't think so; but judging by the ones
13 they sent it to I think I would have gotten a copy of it.

14 MR. RACE: I'll mark it as an Exhibit No. 7.

15 (Whereupon, Plaintiff's Deposition Exhibit No. 7
16 was marked for identification.)

17 Q. (By Mr. Race) You're familiar with the World
18 Health Organization, are you not?

19 A. I couldn't hear you.

20 Q. You're familiar with the World Health
21 Organization?

22 A. Yes.

23 Q. And that's a respectable body, is that not?

24 A. Well, I don't know that much about them. I
25 just know who they are and that's about it.

1 Q. It's a world organization that in part
2 monitors and studies toxic chemicals, does it not?

3 A. I don't know that. I don't remember
4 receiving any of their publications routinely.

5 (Whereupon, a short break was taken.)

6 Q. Yusho occurred in 1966, is that correct?

7 A. '65 or '66.

8 Q. Okay. And the effects, the toxicological
9 effects started to become known about two years later,
10 about 1968, is that correct?

11 A. Well, I think the effects became known less
12 than two years, but the causative agent was not decided
13 until two to four years later.

14 Q. And the causative agent in that regard was
15 determined to be furans?

16 A. That's correct.

17 Q. And the furans were found in the Yusho oil in
18 parts of five parts per million?

19 A. Oh, higher than that, I'd say figures up to
20 five thousand parts per million.

21 Q. Where did you see the figures of five
22 thousand parts per million?

23 A. Oh, these memorandum around here.

24 Q. The contamination that was ultimately -- Were
25 you still employed by Monsanto when the level of furan

1 contamination was established in PCB's?

2 MS. RUTTER: Objection, are you talking about
3 Yusho?

4 MR. RACE: No.

5 MS. RUTTER: We've already answered this
6 question.

7 MR. RACE: And I'm just clarifying when the
8 time he retired it was not yet established the
9 contamination level of furans in PCB's.

10 Q. (By Mr. Race) Is that correct?

11 MS. RUTTER: Objection, it's vague. Are you
12 referring to Monsanto PCB's?

13 MR. RACE: Yes.

14 A. Yes, that's correct.

15 Q. (By Mr. Race) What is yellow atrophy of the
16 liver, acute yellow atrophy of the liver?

17 A. Acute yellow atrophy of the liver is an
18 illness caused by either viruses or chemical intoxication.
19 It's characterized by jaundice, discoloration, jaundice of
20 the skin, discoloration of the liver, shrinkage of the
21 liver and can be fatal.

22 Q. Is there any correlation between acute yellow
23 atrophy of the liver and PCB's?

24 A. And who?

25 Q. PCB's?

1 A. No, sir, I don't think so. There had been a
2 correlation set up by some people due to the fact that
3 Halowax Corporation in 1936 or '37 used a chlorinated
4 diphenyl benzene which is not a PCB in connection with one
5 of their chlorinated naphthalenes, and that particular
6 compound along with other plain, plain chlorinated
7 naphthalenes were correlated with yellow atrophy of the
8 liver in cable pullers in New England.

9 Q. Okay. So you are -- You testified that
10 there's a correlation, a possible correlation between
11 chlorinated naphthalene and acute yellow atrophy of the
12 liver?

13 A. Yes, sir, there has.

14 Q. But not chlorinated biphenyls?

15 A. That's correct.

16 Q. And is it not true is that chlorinated
17 naphthalenes and chlorinated biphenyls are of the same
18 chemical family, namely hydrochlorinated aromatic or
19 chlorinated, chlorinated aromatic hydrocarbons?

20 A. Yes, but just because, coal and die must come
21 from the same family, but they are a lot different.

22 Q. Is it not true that in 1955 various studies
23 did in fact show that there were correlations between
24 acute yellow atrophy of the liver and PCB exposure?

25 A. What was that question again, I don't --

1 Q. Are you aware of any studies which occurred
2 as early as 1955 earlier which drew correlations between
3 acute yellow atrophy of the liver and PCB exposure?

4 A. No, sir, I do not recall those. There have
5 been statements made by individuals that have tagged
6 chlorinated PCB's with the same brush they tagged
7 chlorinated naphthalene; but if you analyze the records
8 you'll find that the yellow atrophies occurred in women
9 workers who were subjected only to chlorinated naphthalene
10 exposure.

11 Q. What are the adverse human effects of
12 exposure to PCB's?

13 A. It could range from nothing if you don't have
14 much exposure to possible, to chloracne, if you get enough
15 exposure, which hasn't occurred. Conceivably you could
16 get liver failure or chemical hepatitis and liver failure.

17 Q. Is liver failure a serious human injury?

18 A. Is what?

19 Q. A serious human injury?

20 A. Oh, yes, certainly it is.

21 Q. Is chloracne a human injury?

22 A. Chloracne is what?

23 Q. A human injury, would you classify it as a
24 human injury or ailment?

25 A. Yes.

1 MR. RACE: Off the record.

2 (Whereupon, a discussion was held off the record.)

3 Q. (By Mr. Race) Doctor, have you seen this
4 document entitled, Analytical Chemistry, Special Studies,
5 71 dash 3.

6 MS. RUTTER: Let's see what the date is. Is
7 there a date on this document, Counsel.

8 MR. RACE: No, that's one of my questions.
9 If you didn't spend all that money having somebody shuffle
10 these documents like a big deck of cards then they might
11 have been in chronological order and it might not have
12 been such a problem.

13 (Whereupon, a discussion was held off the record.)

14 Q. (By Mr. Race) Are you familiar with that
15 document?

16 A. Not too familiar, no, because it's my
17 impression that the residue studies were reported from
18 Bio-test either at the time I was leaving Monsanto or
19 after I left them.

20 Q. So this appears to be a report from Bio-test
21 to Monsanto?

22 A. No, I think Monsanto did the testing on
23 material kept in the deep freeze by Bio-test and sent down
24 to Monsanto.

25 Q. Okay. So this was a matter of Monsanto

1 re-testing Biotech?

2 A. They weren't rejecting them, no, we had the
3 expertise in radioactive finding and they either didn't or
4 it was wiser for us to do it.

5 Q. So you believe that documents represents a
6 Monsanto study done of Biotech?

7 A. Samples.

8 Q. Samples?

9 A. Yes.

10 Q. Okay, I'm going to mark that as --

11 (Whereupon, a discussion was held off the record.)

12 Q. And would that be true of these two studies,
13 the first one?

14 MR. WUNDERLICH: What was that one marked?

15 MR. RACE: 8. And No. 8 is job number
16 1348006. I think this is just a continuation and has the
17 same job number on it, the first one; and the second one
18 actually is -- No, different dates.

19 A. This one is a continuation of one that
20 Monsanto 2144 -- 21449.

21 Q. (By Mr. Race) And finally the last one is
22 also a continuation?

23 A. This is a, in dogs, the last one he just gave
24 me, 2164 was the determination of PCB's in dog tissues,
25 two year chronic testing.

1 Q. That one will be marked 10 and the last one
2 identified as a continuation of original study was marked
3 No. 9. Okay, it's in this box, okay, now this box. Now
4 F.R. Johanson was a toxicologist with --

5 A. Who is this?

6 Q. Johanson?

7 A. Yes.

8 Q. He was a toxicologist with Monsanto, correct?

9 A. Yes.

10 Q. Do you know if any studies, epidemiological
11 studies were conducted after you left?

12 A. You went too fast, I couldn't hear you.

13 Q. Do you know whether any epidemiological
14 studies had been in the works and started after you left,
15 were there any plans made for epidemiological studies that
16 had not started before you left?

17 A. No.

18 Q. Do you know anything about that record,
19 Doctor?

20 A. Do I know anything about this memorandum?

21 Q. Yes.

22 A. No, sir, I don't.

23 Q. Do you recall anything at all, "Dr. Kelly
24 says burning N.C.R. paper a problem here?"

25 A. Is --

1 Q. Along with all others?

2 A. Howard is the fellow's last name underneath
3 it? Well, I must have said it, N.C.R. paper uses PCB's in
4 their carbonless carbon paper and it was burned it could
5 conceivable volatilize in PCB's.

6 Q. And what temperatures would that be changed,
7 would that be reached when burning that paper?

8 MS. RUTTER: Objection, calls for speculation
9 and conjecture.

10 A. I don't know.

11 Q. (By Mr. Race) I'll mark that as Exhibit 11.
12 (Whereupon, Plaintiff's Deposition Exhibit No. 11
13 was marked for identification.)

14 Q. You're familiar with the IBT studies in which
15 Dr. Levinskas was involved and asked that wording in those
16 studies be changed?

17 MS. RUTTER: Objection, I think you're asking
18 about issues that are after his time.

19 MR. RACE: I don't know.

20 MS. RUTTER: I object to the
21 characterization.

22 MR. RACE: I don't know, I mean, I'm not
23 certain at all as to when that occurred. I don't have my
24 date line.

25 A. I do not believe that the correspondence

1 between Levinskas and Calandra occurred while I was still
2 with Monsanto. I think that occurred after.

3 Q. (By Mr. Race) And who would have been the
4 director at the time that occurred?

5 A. What?

6 Q. Who would have been in that position at the
7 time that that occurred?

8 A. Roush.

9 Q. Roush?

10 A. But I'm not certain.

11 Q. So had you visited the IBT facility?

12 A. Oh, yes, quite frequently.

13 Q. Had you taken note of anything other than
14 clean standard operation procedures?

15 A. No, it looked very first class to me. I've
16 been in a lot of toxicological laboratories in Europe and
17 the United States, this was right up at the top of them.

18 Q. Okay. Did you know Paul Wright at the time
19 you were the medical director?

20 A. Yes.

21 Q. And you were aware that he had left Monsanto
22 to take a position with IBT?

23 A. Yes.

24 Q. And after a stint with IBT he returned to
25 Monsanto, correct?

1 A. To the medical department, yes, sir.

2 Q. And he worked underneath you, did he not?

3 A. Beg your pardon?

4 Q. He worked underneath you?

5 A. Yes.

6 MS. RUTTER: Counsel, there's just one thing
7 I'd like to clarify that was unclear to me.

8 Did you know Paul Wright before he worked in the
9 medical department?

10 THE WITNESS: No. I worked for Monsanto, he
11 worked in the research department, the agricultural
12 department. Wheeler knew him, but I did not know him.

13 Q. (By Mr. Race) But he then after leaving IBT
14 returned to Monsanto in the medical department?

15 A. That's correct.

16 Q. And worked under you as a toxicologist?

17 A. Yes.

18 (Whereupon, a discussion was held off the record.)

19 Q. If PCB's are heated and workers are exposed
20 to vapors they should wear respirators, correct?

21 A. It depends on how long they are exposed to
22 the vapors. It depends on the temperature, it depends on
23 which PCB's.

24 Q. Did you advise, put warnings on the PCB's
25 materials to insure that the ultimate user was aware to

1 wear respirators under those conditions.

2 MS. RUTTER: I object to the form of the
3 question. It contains undefined terms that I think have
4 come to be used as legal terms of art.

5 Q. (By Mr. Race) Subject to the objection?

6 A. I told them to avoid breathing the fumes at
7 elevated terms or confined spaces. How they did that
8 depended on their own operation. They may have had
9 exhaust ventilation at the site, they may have had airline
10 helmets, they may have had spot ventilation at the site;
11 so I did not tell them how to achieve what I recommended.

12 Q. Okay. The warnings that were placed -- Or
13 strike that. The PCB's that were shipped to Westinghouse
14 were done in tank cars, correct, sir?

15 A. Yes, sir.

16 Q. Warnings were not put on tanks cars until
17 1972, is that correct?

18 A. I don't know, I don't know.

19 Q. Okay. If you previously testified that the
20 warnings on tank cars first appeared in 1972 would you
21 have any reason today to doubt that testimony?

22 A. Did I previously testify.

23 Q. I think -- If you haven't, you haven't,
24 record will speak for itself.

25 A. I don't recall, but I know that we have that

1 seven different language plaquard that we put on tank
2 cars; but I thought that was around 1970.

3 Q. Once again, the only two harmful effects
4 noted to humans have been chloracne and liver damage,
5 correct, exposure to PCB's, correct?

6 A. Acute exposure to PCB's gave rise to a
7 chemical hepatitis, chronic exposure gave rise to
8 chloracne.

9 Q. And those were the only two harmful effects
10 to individuals, to workers that you knew of, is that
11 correct?

12 A. That's correct.

13 Q. And how long did you did you know of those
14 two harmful effects?

15 A. Well, I was positive when the case reports
16 of -- rather when two organizations called me about using
17 PCB's as a heat transfer agency, heat transfer agent; they
18 had leaky jury-rigged heat transfer apparatus that leaked
19 and the people breathed it for three or four days at
20 elevated temperatures. That was in the fifties, I
21 believe. I had experience with women who immersed their
22 heads in a thermometer factory someplace in New England
23 that developed chloracne, again for PCB's but not
24 electrical installation, and now I suspected it all the
25 time that it could be possible from the Drinker work.

1 Q. What was the OSHA recommended levels, air
2 levels?

3 A. I don't know what the OSHA levels were. The
4 levels recommended by the American Conference of
5 Government Industrial Hygienists was .5 milligrams per
6 cubic meter for 1254 and 1.7 milligrams for either 48 or
7 42, I don't know which one.

8 Q. 1.01 milligrams per --

9 A. Cubic feet, and that was to be an extremely
10 safe level. That's what they thought.

11 Q. And that would be a level that Monsanto would
12 abide by?

13 A. Yes.

14 Q. And that's arrived at from an occupational
15 medicine doctor's point of view as being a level which
16 would be far below that which could possibly cause injury,
17 isn't that correct?

18 A. Well, who arrived at that level?

19 Q. Somebody in your position?

20 A. Well, I don't know if it was far more, but it
21 was a safe level. Whether it was after factor of two,
22 three or ten, I don't know.

23 Q. And that would be a level that would be safe
24 for both humans and animals, is that how that level is
25 determined?

1 A. Well, yes, they determine it on animals and
2 then they extrapolate it to humans.

3 Q. Who is W.B. Brown?

4 A. Brown?

5 Q. Yes.

6 A. I don't know, there are a lot of Browns a
7 round.

8 Q. Browns --

9 A. There was a Brown in the government, there
10 was a Brown at GE, but I don't know what Brown you're
11 talking about.

12 Q. Was there a Brown that worked for Monsanto in
13 1955?

14 A. I don't know, could be, could not be.

15 MS. RUTTER: Counsel, on the record I have
16 about eight minutes to 4:00 and as I mentioned we have to
17 strictly adhere to the four hour testimony restriction.

18 MR. RACE: How are you feeling, Doctor?

19 THE WITNESS: I'm fine.

20 MR. RACE: Thank you.

21 THE WITNESS: But I cannot be here without my
22 counsel.

23 MS. RUTTER: He's also medically advised not
24 to testify beyond four hours a day and the four hours
25 expires at 4:00 o'clock.

1 Q. (By Mr. Race) I'm not stressing you, am I,
2 Doc?

3 A. Beg your pardon?

4 Q. I'm not stressing you out?

5 A. No.

6 Q. You're stressing me out.

7 A. No, I don't think so.

8 (Whereupon, a discussion was held off the record.)

9 Q. Do you recognize that memo and the names on
10 there? That's directed to J.W. Barrett, who you
11 previously identified as employed by Monsanto U.K., is
12 that correct?

13 A. That's correct.

14 Q. And the author is a Brown; do you recognize
15 the Brown, go to the last page. The author is a Brown.

16 A. It's Hardy here.

17 Q. Who is Mr. Hardy? I stand corrected, it's
18 Mr. Hardy?

19 A. Hardy was a -- I think he was a research man
20 in the Monsanto, England.

21 Q. So this appears to be a communications
22 between internal communications of Monsanto U.K., is that
23 correct?

24 A. That's correct.

25 Q. And these internal communications would

1 regularly be sent to Monsanto U.S., is that correct?

2 A. Well, I don't see people from Monsanto U.S.
3 on it, I'm not on it, and there are two memoranda here, it
4 looks like, one there is a Brown, I don't know who he is,
5 the first memorandum is by Hardy, the next one is by
6 Brown.

7 Q. Yes, the first memorandum you have identified
8 is a memorandum appearing to be a memorandum of Monsanto
9 U. K., can you tell me anything?

10 A. Yes, that's right.

11 Q. And the second memo, do you recognize that at
12 all?

13 A. Yes, it's by --

14 Q. Do you recognize it as being a Monsanto memo
15 at all?

16 A. Yes, it's a Monsanto memo by Brown.

17 Q. Let me identify that as 12.

18 (Whereupon, Plaintiff's Deposition Exhibit No. 12
19 was marked for identification.)

20 Q. And you were not employed by Monsanto on July
21 18, 1975, correct?

22 A. I didn't hear the date.

23 Q. 1975, July --

24 A. I was not.

25 Q. The Journal of Industrial Hygiene and

1 Toxicology, was that a recognized journal?

2 A. Yes, it was, that's stopped publication.

3 Q. Yes, but when it was publishing in the
4 thirties it was recognized as a scientifically accepted
5 magazine, is that correct?

6 A. Yes.

7 Q. Is that something that you read and
8 consulted?

9 A. Yes.

10 Q. In your early days in medicine?

11 A. Yes.

12 Q. Are you familiar with Frederick B. Flynn,
13 Ph.D., who published articles in 1946?

14 A. I don't know him. I know his work, he did
15 work for Swan Chemical Company on their PCB's when they
16 had their chloracne epidemic.

17 Q. And he was a recognized authority on PCB's?

18 A. I don't think so. I don't know much about
19 it, but someone picked him.

20 Q. And he had studied -- It's your appreciation
21 he had studied the problem for sometime?

22 A. Beg pardon?

23 Q. It's your appreciation that Dr. --

24 A. Flynn.

25 Q. That Dr. Flynn had studied the chloracne

1 problem of someone?

2 A. Yes. I don't know if he studied the problem,
3 but he read some tests on material they sent him, to see
4 which if he could find out which was the --

5 Q. Is there a correlation between smelling PCB's
6 and the concentration in the air?

7 A. Between what?

8 Q. Smelling?

9 A. Well, I'm not sure at this time if I know
10 what the odor threshold is.

11 Q. In other words if you smell it is it too
12 strong?

13 A. I don't think so.

14 Q. Are there those that would disagree with you?

15 MS. RUTTER: Objection, calls for speculation
16 and conjecture.

17 MR. RACE: Fine.

18 Q. (By Mr. Race) Do you recognize that there
19 are scientists that would disagree with that, that by
20 virtue of the fact that the chemical smell, the
21 concentration is in such levels it would be harmful to the
22 individual?

23 A. Well, I don't know. I haven't seen reports
24 of that.

25 MS. RUTTER: Got about twenty seconds,

1 Counsel.

2 MR. RACE: We attempted to finish, however,
3 this has been very lengthy, it is very warm and the doctor
4 has been very good; so the decision has been made that
5 we'll resume this deposition at a later date, both
6 Papageorge and Kaley will be produced, we'll make a
7 decision as to whether or not we'll have to finish up with
8 Dr. Kelly or after reviewing the deposition make a
9 determination as to whether the questions asked are
10 sufficient.

11 MS. RUTTER: I need to do one real quick
12 thing since we don't know whether you're going to ask to
13 have him back or not, and this is on the records.

14 CROSS-EXAMINATION

15 QUESTIONS BY MS. RUTTER:

16 Q. Dr. Kelly, I believe Mr. Race asked you some
17 questions about furans and dioxins and a topic that you
18 hadn't been designated on and I believe you gave a window
19 for dioxin formation in pyrolysis if you had PCB's blended
20 with trichlorobenzene of six hundred to eight hundred
21 degrees and I think you said Fahrenheit?

22 A. I'm not sure. It would be centigrade.

23 Q. Mr. Race also gave you some hypotheticals
24 asking you to assume that were dioxins had been found as a
25 contaminant of PCB's; I just want to make sure if the

1 record is clear. While you were medical director of
2 Monsanto up through the end of November of 1974 no dioxins
3 were found as contaminants at Monsanto manufacturing
4 PCB's, is that correct?

5 A. That's correct.

6 MR. RACE: But my question was not with
7 respect to PCB's, it was Inerteen.

8 MS. RUTTER: I think the record was very
9 unclear what you were talking about, Counsel, and whether
10 it was pyrolysis or in the manufacture and in any event
11 this witness is not designated on that topic.

12 MR. RACE: Cool.

13 MS. RUTTER: Dr. Kaley is designated on that
14 topic.

15

16

R. Emmett Kelly, M.D.

17 Subscribed to before me this _____, 1994.

18

19

(Notary Public.)

20 My commission expires: _____.

21

22

23

24

25 Bechtold v. Monsanto/TM

NOTARIAL CERTIFICATE

STATE OF MISSOURI)
)
CITY OF ST. LOUIS)

I, TOD MINNIGERODE, a Certified Shorthand Reporter and a duly commissioned Notary Public within and for the State of Missouri, do hereby certify that pursuant to agreement there came before me at the offices of Wilburn, Suggs & Watkins, 1221 Locust, St. Louis, MO,

R. EMMETT KELLY, M.D.,

who was by me first duly sworn to testify to the truth and nothing but the truth of all knowledge touching and concerning the matters in controversy in this cause; that the witness was thereupon examined under oath and said examination reduced to writing by me; to be signed by the witness; and that this deposition is a true and correct record of the testimony given by the witness.

I further certify that I am neither attorney nor counsel for nor related nor employed by any of the parties to the action in which this deposition is taken; further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto or financially interested in this action.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on June 2, 1994.

My commission expires July 28, 1995.

[Notary Public]

IN THE CIRCUIT COURT OF THE CITY OF ST. LOUIS
STATE OF MISSOURI

JUDITH BECHTOLD, et al,	)	
	)	
Plaintiffs,	)	
	)	
vs.	)	Cause No. 922-00911
	)	
MONSANTO COMPANY, et al,	)	
	)	
Defendants.	)	

REPORTER'S CERTIFICATE AND STATEMENT OF DEPOSITION CHARGES

I hereby certify that the original deposition transcript of R. EMMETT KELLY, M.D. taken May 31, 1994, is in the custody of Mr. Joseph A. Race, of the Murray Law Firm, 909 Poydras St., Ste. 2550, New Orleans, LA 70112.

For signature, transcript temporarily held at Waller Reporting, 515 Olive, St. Louis, MO 63101.

I further certify that costs to be taxed as per statute are as follows:

Taxed in favor of:		
Murray Law Firm	Orig. & 1	378.20
909 Poydras St.,	Atten. & Notary	76.00
New Orleans, LA 70112	Total:	\$ 454.20

Taxed in favor of:		
Husch & Eppenberger	One copy:	134.20
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Upon delivery of transcripts above charges had not been paid. It is anticipated that all charges will be paid in the normal course of business.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on June 2, 1994.

Notary Public

My commission expires July 28, 1995.

JUDITH BECHTOLD, et al,)
Plaintiffs,)
vs.)
MONSANTO COMPANY, et al,)
Defendants.)

APPEARANCES
Ms. Carol Rutter
Mr. Joseph A. Race
R. Wunderlich
T. Lucas
Cause No. 922-00911

CAUSE NO. 922-00911 VENUE City DATE 5/31/94

Witnesses Signed Waived Taxing info

R. EMMETT KELLY, M.D.() 494.65
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