

FILE NAME: Celanese (CEL)

DATE: 1998

DOC#: CEL040

DOCUMENT DESCRIPTION: Legal - Deposition of Dixon, Vol II

NO. 96-3348-E

BERNICE DENKELER,
INDIVIDUALLY AND AS
INDEPENDENT EXECUTRIX OF
THE ESTATE OF RAYMOND
DENKELER, DECEASED

VS.

ACandS, INC., ET AL

* IN THE DISTRICT COURT OF
*
*
*
*
*
* NUECES COUNTY, TEXAS
*
* 148TH JUDICIAL DISTRICT
* * *

VOLUME II

VIDEO DEPOSITION OF

ERNEST MALCOLM DIXON, M.D.

On October 13th and 14th, 1998, the video deposition of ERNEST MALCOLM DIXON, M.D., a witness in the above-styled cause, was taken at the instance of the Plaintiff at the Tyson's Corner Marriott, 8028 Leesburg Pike, Vienna, Virginia, pursuant to Stipulations contained herein.



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1 Q Do you believe that it was the - Celanex
2 was a product made by Celanese when you joined the
3 company in 1965?

4 A I don't believe so.

5 Q And was this polyester resin product the
6 sort of thing that you would use with fiberglass
7 reinforcing to make glass reinforced polyester resin
8 hard goods?

9 A I don't recall at this point. There were
10 others -- There were a number of possibilities of
11 other materials that could be combined, but I don't
12 recall now. The only one that I was particularly
13 concerned about was the asbestos. So, I don't
14 remember now. We had a lot of similar products that
15 would get me confused easily. Not with asbestos,
16 but ---

17 Q Okay. I was just ---

18 A Yeah.

19 Q When you -- When you described it
20 yesterday as an engineering plastic, I got the ---

21 A Yeah.

22 Q --- sense that it was used to make shaped
23 or hard items kind of like you - you would typically
24 talk about being a fiberglass product.

25 A I don't associate the fiberglass term

1 THE VIDEOGRAPHER: We are on the
2 record at 9:17 a.m.
3

4 RESUMPTION OF EXAMINATION BY MR. BLANKS:

5 Q Good morning again, Doctor, and welcome
6 back.

7 A Thank you, sir. Good morning.

8 Q Thank you for joining us again. When we
9 stopped yesterday afternoon I think we had begun to
10 talk about any programs at Celanese after or when
11 you came for monitoring workers exposed to asbestos
12 and such - medical monitoring and industrial hygiene
13 monitoring - just to kind of pick up from where we
14 were.

15 A Okay.

16 Q But I - in that connection I had a
17 question about the Celanex product that we talked
18 about briefly. Do you have any sense of how - how
19 early Celanex began to make - Celanese began to make
20 that polyester resin asbestos augmented product?

21 A I'm not sure. It hadn't been long before
22 we were looking at it when the standard came out,
23 but I don't recall precisely ---

24 Q Do you ...

25 A --- the details.

1 Q And when you began with Celanese in 1965,
2 was there a medical doctor employed at the Bishop
3 plant?

4 A Not at the Bishop plant. There was a
5 local designated physician.

6 Q So, this would have been a contract
7 doctor in the ---

8 A Yes.

9 Q --- area?

10 A Yes.

11 Q And do you recall what generally that
12 doctor's duties would have been other than maybe
13 dealing with injuries and ---

14 A Well ...

15 Q --- traumas?

16 A ... I think he did most of the
17 pre-employment exams, which were done on all
18 employees; any special exams that had to be done for
19 disability, exposure, any such phenomenon. And he
20 attended to the Worker Comp-type injuries or any
21 illnesses of the like that were thought to be
22 related to the work, or in emergency situations, of
23 course.

24 Q By chance do you remember that doctor's
25 name?

1 particularly. Fiberglass, of course, is used in
2 automotive body parts and whatnot and other -- But I
3 don't recall whether they made one with fiberglass
4 or not.

5 Q I'm sorry. I didn't mean to push you that
6 way. And it probably doesn't matter. But in other
7 words, this polyester resin was a liquid product
8 when Celanese sold it, to which I guess a catalyst
9 would be added to make it solidify?

10 A You know, I don't recall at this point.
11 Some polyesters were thermoplastic and some were in
12 solvent-based solutions. And they may have had it
13 in a form that was liquid. I would have thought it
14 would have been in a hard form, either pellets or
15 flakes or whatnot and melted; but I - I don't recall
16 now.

17 Q Okay. I was just trying to understand. I
18 don't suppose it much matters for our business
19 today.

20 A Okay.

21 Q I'm sorry.

22 A Nothing.

23 Q Did you personally ever go to the Bishop
24 plant?

25 A Oh, yes.

1 A You know, I can't right at the moment. I
2 can see him, but I can't remember his name.

3 Q I would think that you likely met with him
4 on your first trip down to Bishop.

5 A Oh, absolutely. That was the first plant
6 I visited.

7 Q How - how was that? Why was that?

8 A They had a big safety award the week after
9 I joined the corporation. They won the Chairman's
10 Safety Award, and they had a huge to-do about it.
11 Nearly all the executives went down there for it.
12 And, so, I went; and I stayed several days so that I
13 could tour the plant and get to meet all of the key
14 people and so forth.

15 Q Did Glenn Fleming - the Celanese safety
16 director - go down there with you on this visit?

17 A Oh, you bet your boots, yes.

18 Q Was the medical program at Bishop then one
19 that included exams for just general health as well
20 as any possible occupational ---

21 A You mean a periodic type of ---

22 Q Yes, sir.

23 A No, it did not, not at that time.

24 Q Was that a feature that you added over
25 time; in other words, where the doctor would be

1 looking at the overall health of the worker as well
2 as any signs of an occupational ---

3 A At a later point, yes.

4 Q --- illness? Did you find or believe that
5 that - that aspect, in other words, the more general
6 health exam along with the occupational exam was
7 desirable in terms of keeping the confidence of the
8 workers and their willingness to participate in the
9 voluntary program?

10 A I'm not quite sure I understand the latter
11 part of the question.

12 Q Well, I was wondering if - if it was your
13 experience that examining the workers for general
14 health problems as well as occupational disease
15 symptoms was desirable?

16 A Yes, I see. I've got the picture now.
17 Yes, I do.

18 Q I mean I would think that would
19 perhaps ---

20 A Very definitely.

21 Q --- make the worker more confident in - in
22 the process and more willing to participate and
23 maybe less inclined to be alarmed that you were
24 examining him because you thought there might be a
25 serious work problem. Am I thinking correctly?

1 A Yes ---

2 Q Okay.

3 A --- very definitely.

4 Q So, in - in 1965 at least the contract
5 doctor was doing periodic examinations?

6 A No, there were no periodic ---

7 Q Oh, I beg your pardon. I misunderstood
8 you.

9 A There were pre-employment and then special
10 exams as needed as I cited in the case of injuries,
11 exposures or any special need; but not periodic
12 surveillance exams.

13 Q Okay. I beg your pardon. And I - I
14 am ---

15 A Now, this is Celanese.

16 Q --- probably confusing what you talked
17 about from ---

18 A Yeah.

19 Q --- Cyanamid.

20 A Yeah, possibly.

21 Q Okay. So - so -- Let me make it clearer
22 and more concise. When you joined Celanese in 1965,
23 the medical program of Celanese did not include
24 periodic physical examinations of its plant workers?

25 A Well, you are talking about the

1 corporation?

2 Q Yes, sir.

3 A It was variable.

4 Q Could you elaborate on that?

5 A Well, we had five - essentially most of
6 the time that I was there we had five operating
7 divisional companies in effect, which we have talked
8 about a little before: Chemical, plastics, fibers
9 and so forth. And fibers operations did have some
10 periodic exams. One or two plants in some other
11 divisions had lesser degrees of it, but - but the
12 chemical company did not have it at all at that
13 point.

14 Q And I'm sorry. You raced through those
15 divisions. Chemical, plastics ---

16 A Well, there were -- There was chemicals,
17 plastics, fibers, coatings, and you could put
18 another batch together of specialty chemicals:
19 paints, coatings, food additives, that sort of
20 thing.

21 Q Well, we will just call them specialty -
22 specialty chemicals.

23 A Yeah.

24 Q Okay.

25 A It wasn't quite that simple, but that's --

1 The first four were full status, autonomous units
2 essentially.

3 Q How was it that the fibers division came
4 to have periodic exams by that time?

5 A Well, that was -- The first part of the
6 corporation was fibers. It started as a fiber
7 company. We talked about the two brothers from
8 Switzerland. And they went from one plant to four.
9 And that was at an early time. And for quite a
10 period the plants - those plants had nurses and two
11 of them had their own physician on staff; and the
12 other two had contract physicians. And the ones
13 that had the physician on staff did it, the others
14 did not. So, it was very variable. It was almost
15 local option.

16 Q Well, I was getting that impression.

17 A Yeah.

18 Q It was fairly decentralized and ---

19 A It was very decentralized at that
20 point. A cohesive hold but very loose ---

21 Q I gather that the plant managers operated
22 fairly independently in terms of whether they were
23 going to have a medical program or a hygiene
24 program, at least back ---

25 A At least the divisions ...

1 Q --- when you got there?

2 A ... or the - the companies did. There was
3 autonomy with the plants, but it was more the
4 division really. We use the term division or
5 company interchangeably.

6 Q Were you charged with - with shall we say
7 developing a comprehensive medical program for the
8 whole corporation when you got hired or ---

9 A Well, we talked about that some yesterday.
10 That was -- Part of the initial charge was for me to
11 assess our needs and recommend things. And I made
12 the point very early on that within my field we felt
13 that a full occupational health program for each
14 plant including health surveillance and all was a
15 must, even though we didn't have very many hazards,
16 but to keep track of employees and to find things
17 that we didn't suspect even. So ...

18 Q So, I take it you recommended then ---

19 A Well, I did. I made that a point in the
20 initial interviews that I had. But we agreed that I
21 would come back and assure them that I was convinced
22 that was a need and then try to sell it to them.

23 Q And were you successful in selling that
24 idea?

25 A Not for a long time, no. I came close a

1 number of times, but ...

2 Q By the time -- Well, when if ever did you
3 persuade management that they ---

4 A Well, in the '70's with the onset of OSHA.
5 And particularly within the chemical company we set
6 up a very elaborate health surveillance system -
7 computerized.

8 Q So, you - you sort of cut me off there
9 and I'm ---

10 A I'm sorry.

11 Q --- I just really wasn't left with a full
12 question. But by 19 -- By the early '70's were you
13 able to persuade management to let you set up a
14 comprehensive and fairly uniform medical program for
15 the whole corporation?

16 A Initially it was only in the chemical
17 company as a pilot operation, and then it would be
18 spread to the other units if it seemed satisfactory
19 and everybody agreed to it.

20 Q And after the pilot program in the
21 chemical division was sort of up and running, what -
22 what followed?

23 A I'm sorry. My mind wavered for a moment.
24 Would you please say that again.

25 Q Yes, sir. After you got your pilot

1 program going in the chemical division, what
2 progress did you make in extending that to the rest
3 of the Celanese Corporation?

4 A Well, it was still in the process of final
5 development - it was in operation, and then it was
6 picked up by the fibers company and subsequently by
7 a good bit of the rest of the company after I left.
8 Everybody was pretty much committed to it by the
9 time I left in '81.

10 Q Do - do you have any view of why this was
11 such a difficult sell?

12 A Yes.

13 Q Would you share that with us?

14 A Well, it had a lot to do with the autonomy
15 of the companies. One of the things that companies
16 generally do is write a medical policy for the
17 corporation. And I never had a medical policy that
18 was acceptable to the whole corporation. One
19 division didn't like one thing, and another division
20 didn't like this. And we never did squeeze it
21 through until the very end when we were really
22 developing the health program.

23 Q I see. And I suppose as - as the company
24 had grown up, each division or company as you call
25 it - but each division had tended to be fairly

1 autonomous ---

2 A Correct.

3 Q --- in its - in its management? Sort of a
4 separate profit center, separate ---

5 A Exactly.

6 Q --- philosophies, separate products?

7 A (Nodding affirmatively)

8 Q I see. Okay. And I suppose the only way
9 you could have seen your unified program put in
10 place would have been if the very top management had
11 in fact imposed it on the divisions?

12 A They were loathed to do that, too. They
13 were - tended to delegate such responsibilities to
14 the operating companies. They would use their
15 influence where they felt it was strongly needed,
16 but ...

17 Q I guess that makes a point that surely is
18 not original but a novice starts thinking that this
19 occupational health problem really just involves the
20 doctors like yourself and industrial hygienists like
21 Mr. Laubly and the - the staff that - that helps
22 support them. But that's really not the whole
23 picture. Management is the critical third part of
24 this triangle, isn't it?

25 A Well, in terms of supporting it and

1 funding it and so forth; right.

2 Q And without the support of management the
3 knowledge and experience of the doctor or the
4 hygienist or other people with special talents is
5 not necessarily going to be applied and have - bear
6 any fruit?

7 A Yes, sir.

8 Q And this problem I suppose is one that
9 stretches back ---

10 A Oh, yeah.

11 Q --- over the century and probably into the
12 future as well?

13 A Yes, no question about that.

14 Q Okay. So, could you tell us when, Doctor,
15 you think the -- Well, let me -- Let me -- Let me
16 begin again. How did you describe your unified
17 medical program or your new medical program, and
18 what - what term should I use to speak of it?

19 A We used -- We called it the medical
20 surveillance program. Some people called it
21 monitoring, but officially it was the health
22 surveillance program.

23 Q Okay. And this medical surveillance
24 program is the one that was first put in place in
25 the chemical division of Celanese ---

1 A That is correct.

2 Q --- under your direction?

3 A Yes.

4 Q And roughly when was it that you were able
5 to implement the medical surveillance program in the
6 chemical division?

7 A We probably got the approval to - at least
8 in - by intent in the early '70's, '71 or '72. And
9 we had to spend quite a bit of time drafting what we
10 needed to do in preparing pretty elaborate
11 proposals, cost estimates, time requirements, all
12 the features that would be of importance to
13 management in making the decision. And that took a
14 good little period of time; at least a year I'm
15 sure. Because we had to do a lot of investigative
16 work as to how expensive it would be and what the
17 facets of it we would deal with were. And there are
18 a number of facets that make it complex. It's not
19 just simple. You just don't hire a doctor and a
20 nurse and a hygienist and you go. You have got to
21 have a lot of other things worked out.

22 Q What -- Would you elaborate briefly on
23 these facets ---

24 A Yes.

25 Q --- that played into it?

1 A There were three fundamental components of
2 a health surveillance program. One was the personal
3 health information which would come from all of the
4 medical encounters with the staff, chiefly the
5 physical exams, but also injury, accident and
6 illness data. Second was the industrial hygiene
7 exposure data; and third was hazard information,
8 toxicological and other data associated with -
9 thought to be of relevance to each work assignment.

10 That's a simplification of it. You had to
11 have timing and - timing of different jobs and all
12 that sort of thing factored in; but that was the
13 essence of it so that it could be combined in a
14 computer program to match up all of these things so
15 that we would be able to relate what the job
16 assignment was, what the exposures were, how much,
17 what the hazards were and what the health experience
18 was so we could do epidemiologic studies really.
19 Now, these would be real epidemiologic studies.

20 And we had very great care given to being
21 as uniform as possible; unlike in Cyanamid where you
22 had different doctors using the same form but they
23 all used their own terminologies and a different
24 scheme of things. We used the National Standard
25 Coding Systems for diagnoses and so forth so that it

1 about it. You know, the Organization Resources
2 Counselors in Washington. They had an OSHA project,
3 and many of the companies had membership in this.
4 And in the chemical industry group that were members
5 undertook this particular project.

6 Q So, this effort that didn't really ever
7 get going ---

8 A No.

9 Q --- was one of the chemical companies? In
10 other words, the chemical companies were the ones
11 who were trying to get together and ---

12 A Yes. The top ten or so, yes.

13 Q Was this done under the auspices of the
14 Chemical Manufacturers Association?

15 A No, this was ORC - Organization of
16 Resources Counselors.

17 Q I'm sorry. That's - that's one I hadn't
18 heard of either.

19 A They were a very big company that - a very
20 big consulting organization that had started soon
21 after World War II largely to help companies cope
22 with personnel-type problems in overseas
23 assignments. And then they spread into other areas
24 where corporations needed guidance and help and a
25 place where they could have a common exchange of

1 information and so forth.

2 Q Let me guess that du Pont was one of the
3 companies that had ---

4 A Oh, yes.

5 Q --- the system?

6 A Yes.

7 Q Who was the other - which was the
8 other ---

9 A Well, the chief ones were du Pont, Eastman
10 and -- Let me think. Which was the third one?

11 Q Dow?

12 A Dow. I believe it was Dow. They were
13 each different, and it had later turned out they
14 were not able to use those programs they had set up
15 because they just didn't meet all the objectives and
16 computerization needs. Some of them went through
17 two and three models before they ---

18 Q I can imagine. As you say it's not a
19 simple task and all the problems are far from clear
20 at the beginning.

21 A It was very complex.

22 Q Well, did you ever encounter a project or
23 an effort at the CMA or MCA as it was earlier to do
24 this - this same sort of thing to pull together
25 health and exposure information?

1 was as standardized as you could make it. And this
2 was very complex. But once you get it established,
3 it runs fairly well. But it's a devil to get it all
4 together.

5 And this was really a state of the art
6 program. I mentioned I think earlier to you that
7 the - in the industry a number of us had tried to
8 get an agreement to set up a scheme of computerized
9 occupational health examinations and so forth -
10 surveillance; and everybody agreed to that. And
11 three of the companies who had - that had programs,
12 early programs, agreed that we could use their
13 programs. But they wouldn't allow any other program
14 to be used.

15 Q Umm.

16 A Actually they had theirs all going. So,
17 we never could swing it through.

18 Q I didn't remember that discussion from
19 yesterday, but ---

20 A Maybe not. I thought we had.

21 Q What time frame did that happen in?

22 A Oh, in the '60's; in the late '60's
23 probably. I don't recall an exact date.

24 Q Was this an effort that was ---

25 A It was under the ORC. I think we talked

1 A No, I didn't. The same people were
2 members of both. For some reason we took it up
3 there.

4 Q In your career did you - did you ever have
5 a time when - when you learned that the insurance
6 companies in - in their files had such information
7 of this sort, you know, that would correlate
8 diseases or claims of disease with exposure data and
9 such?

10 A Insurance companies? What type of
11 insurance companies?

12 Q Well, the casualty or the Workers' Comp.
13 or the -- I mean I'm thinking back to Mr. Laubly's
14 early experience with Kemper, for example ---

15 A Oh.

16 Q --- where he was in fact going out ---

17 A Where he was doing it under the auspices
18 of the insurance company. All right.

19 Q Yeah. They were doing surveys ---

20 A Yes.

21 Q --- and obviously the insurance carrier
22 would have been receiving some claims.

23 A Yes. Yes. I just couldn't place that at
24 first. I have lost the thrust of the question.

25 Q Well, I hope I have it. Let me -- Let me

1 see. In your experience did you - did you ever
2 learn of any insurance company efforts to - to pull
3 together information about exposure data and
4 occupational disease to - that would be in the way
5 of an epidemiology study?

6 A I don't know about an epidemiology study,
7 but they did I'm sure pull together information. I
8 didn't have much exposure to that because we hired
9 our own industrial hygienists - you know, Laubly
10 from Kemper as soon as - or very shortly after I got
11 there. So, that wasn't an issue for us at that
12 point. And in the earlier days I don't recall
13 having that experience with an insurance carrier
14 and - and other companies.

15 Q Do you -- Do you have a recollection of
16 any insurance carrier in connection with American
17 Cyanamid?

18 A You know, I don't. Right off the top of
19 my head I don't. I'm sure I did know, but at the
20 moment I can't recall. It's far enough back to ...

21 Q I should have asked Mr. Laubly, but I
22 wondered if the inspections - the industrial hygiene
23 inspections or surveys that Kemper was doing for
24 Celanese before 1966 continued after Mr. Laubly
25 became the Celanese chief industrial hygienist?

1 A It was my understanding they did not, but
2 I can't be positive of that. I never heard of it at
3 any rate.

4 Q Did health claims' information come to you
5 as the medical director for Celanese?

6 A Now, what kind of health claims?

7 Q Well, I guess any sort at all; but
8 obviously we ---

9 A Well ...

10 Q --- would be focusing on the, say,
11 occupational disease claims.

12 A Yeah. The insurers are pretty much not
13 willing to share personal illness information with
14 the corporations by in large but very definitely
15 shared the occupational health issues.

16 Q How - how do you remember that - that
17 information coming to you; I mean in what form did
18 it frequently ---

19 A As a matter of fact, I don't because -
20 certainly not to any degree because soon after I got
21 there we brought Laubly on board; and then that -
22 that wouldn't have occurred to my knowledge.

23 Q I - I guess I was thinking about -- From
24 an administrative standpoint as medical director
25 would you receive reports of, say, injuries from

1 plants?

2 A Oh, yes. From the plants, yeah; not the
3 insurer, though.

4 Q Well, I -- I'm sorry for misleading you
5 off - off the track there.

6 A Yeah.

7 Q You get the injury information from the
8 plants.

9 A (Nodding affirmatively)

10 Q I was wondering if claims information for
11 Celanese workers might have come to you from the
12 insurance company as well.

13 A I don't recall that. And I can't say that
14 it wasn't, but I do not recall it. We would get
15 involved with some claims that were under Workers'
16 Comp., providing additional information and that
17 sort of thing ---

18 Q Uh-huh.

19 A --- to them. And I guess there was an
20 exchange of information in that respect on
21 compensable matters. We kept our own incidents
22 information and so forth. They wouldn't have even
23 had that particularly.

24 Q "They" the insurance companies?

25 A I don't think so because a lot of it

1 didn't involve claims or insurance needs, but we
2 wanted data on all of the things that happened.

3 So, each division had to submit a report
4 to the safety director and to the medical director
5 and perhaps to some other people in management every
6 month on what their experience had been. Celanese
7 was a very safety conscious company. And it had a
8 very fine safety organization. Every plant had a
9 safety engineer. The central safety department was
10 excellent. And ...

11 Q I think you have told us ---

12 A And, in fact, they did many of the things
13 that weren't being done by others in that early
14 period healthwise. They oversaw exposure to a
15 degree and made sure that cases were properly
16 handled. And it was a very excellent service.

17 Q Well, you mentioned that Mr. Fleming had
18 been safety director at Celanese some 15 to 20
19 years ---

20 A When I got there he ...

21 Q --- by the time you arrived in '65.

22 A Yeah.

23 Q Could you elaborate on what sort of
24 exposure oversight the safety department had been
25 doing in the past?

1 A Well, we didn't have our own industrial
2 hygiene people at all. And they kept monitoring on
3 what was happening in the plants with respect to
4 exposures that would occur, failures of equipment,
5 personnel practices. They had a very highly active
6 employee training, had safety meetings, et cetera,
7 so that the employees were very much on the front
8 edge of knowing as much as possible about what they
9 were doing and what hazards there were and what
10 precautions to be taken. It was a very strong thing
11 in Celanese Corporation. This came right down from
12 the Chairman.

13 Q Did you find when you started with
14 Celanese in 1965 that the safety department of
15 Celanese Corporation had the equipment and the
16 expertise to do monitoring for dust?

17 A No, sir, they did not do monitoring. That
18 was -- They basically didn't. There might have been
19 some exceptions, but that was not their
20 responsibility. Oversight from inspection and
21 visual walk-throughs and so forth was their mode of
22 operating. And whenever there was any industrial
23 hygiene work being done by the carrier - insurance
24 carrier or by our own staff even, they were usually
25 in accompaniment with us. So, it was a joint or

1 shared effort in the sense of keeping each side
2 fairly apprised of what was happening - the results,
3 et cetera.

4 Q So - but before Mr. Laubly came to
5 Celanese as the corporate industrial hygienist, are
6 you saying that the safety people would have
7 ordinarily accompanied a visiting insurance ---

8 A Yes.

9 Q --- hygienist ---

10 A Yes.

11 Q --- in his survey of the plant?

12 A Absolutely. In fact, it was Mister -- As
13 I think I told you yesterday it was Mr. Fleming who
14 recommended our employing Chuck Laubly because he
15 had been so excellent to work with by - his group.
16 And he was right. I had great respect and
17 admiration for Mr. Fleming. He was a - Glenn.

18 Q Did your work at Celanese ever bring you
19 in contact with Herb Walworth from ---

20 A Well, Herb was Chuck's boss. And I knew
21 him quite independent of that through the AIHA.

22 Q Well, I thought you might have.

23 A Yeah.

24 Q . And it was my understanding Mr. Walworth
25 for whatever reason had kept the Texas Celanese

1 plants as - as part of his inspectorate in the - in
2 the years when Mr. Laubly was working at ---

3 A Yeah. I started to indicate that, but I
4 couldn't recall enough to safely try to describe
5 that. There was somebody else, and I don't know
6 whether he did it or some other person; but that was
7 true. Although Chuck was involved some in the - in
8 the chemical company operations, too.

9 Q Well, if I remember his - his testimony
10 correctly, he said that - Mr. Laubly said that -
11 that though he certainly visited Celanese plants all
12 around the country ---

13 A Yeah.

14 Q --- Texas was Mr. Walworth's territory for
15 the Celanese plants anyway.

16 A I guess that was probably true. It sounds
17 right.

18 Q And that I think prior to becoming a
19 Celanese employee Mr. Laubly had not, in fact, ever
20 been to the Texas Celanese plants, certainly not to
21 the Bishop plant; that Herb Walworth had ---

22 A Oh, he hadn't ever been there?

23 Q I think I remember that correctly, yes,
24 sir.

25 A I'm - I'm not sure.

1 Q And Mr. Walworth of course is deceased
2 now. But can you give us any insight into his
3 qualifications or his reputation as an ---

4 A Oh, his qualifications and reputation were
5 fine, outstanding. He was a fickle character, but
6 he was all right.

7 Q And you say you became acquainted with
8 Mr. Walworth through the Industrial Hygiene
9 Association?

10 A I presume through the field, you know,
11 common interests and so forth.

12 Q Would you attend the - the annual meetings
13 of the Industrial Hygiene Association?

14 A Oh, yes. I was director for a time. I
15 was in fact the last medical person who was a
16 director on the national board of the AIHA. That
17 was just before the time they were splitting. And,
18 so, they've never had any physicians on it since.

19 Q What did you do, scare ---

20 A It wasn't because of me they ...

21 Q --- scare them off?

22 A No.

23 Q Had you begun attending AIHA meetings even
24 as a student at Kettering?

25 A Yes, because they were joint as I think I

1 told you the other day with the IMA - at that time
2 called the Industrial Medical Association. They
3 were joint meetings of actually three groups. The
4 physicians, the industrial hygienists and the
5 occupational health nurses all met at the same time.
6 The numbers of people weren't too great at that time
7 to find a meeting facility that would cope with it.

8 Q And then I would expect you didn't miss
9 any of the annual meetings of the AIHA up until near
10 the time you retired. Would that be right?

11 A That's virtually true. There was one
12 meeting I missed I know, and then in the last few
13 years I missed an occasional one. But I essentially
14 got to all of the meetings except when I had some
15 illness in the family one year.

16 Q Which year was that?

17 A '61. My wife had corneal transplants. At
18 that time there was a meeting in California, and I
19 missed that one.

20 Q Did you -- Would you remind me when
21 approximately it was that the IMA split - well, from
22 the AIHA, at least in their meetings?

23 A It was a horrible mistake, of course. And
24 it was railroaded by a very small number of the
25 physicians who acted a little too big for their

1 britches. We tried to bring it back again at later
2 times. And then both organizations had grown so big
3 that it just never became feasible to do so. It
4 must have occurred - well, it was sometime in the
5 '60's. Probably - probably by '65. I'm very
6 fuzzy -- I -- Don't hold me accountable to that
7 date. It might have been a little later than that.
8 I'm just trying to think. I'm not sure.

9 Q Were the proceedings of the annual
10 meetings published for the AIHA and the IMA?

11 A By in large papers given at these meetings
12 just as with most scientific meetings are requested
13 to be submitted to the journals for publication.
14 All of them didn't get there, of course. And the
15 journal doesn't necessarily always accept every
16 article, but basically they were.

17 Q And do you recall ever presenting a paper
18 at one of the annual meetings?

19 A I did, and I chaired sessions and so forth
20 and ...

21 Q I'm curious. What - what do you remember
22 what you had written on?

23 A I didn't publish it as a matter of fact.
24 I gave one paper there on health surveillance in -
25 in the late '60's. That was a subject I had written

1 several publications on and -- But it was a -- They
2 had -- They had various sections of the AIHA annual
3 group. One was the medical section which we
4 referred to yesterday when we mentioned Dr. Selikoff
5 gave his presentation.

6 I was head of that for some of the time,
7 and then I chaired some of those meetings. I can't
8 recall specifically other particulars. But there
9 were so damn many meetings, it was pathetic.

10 Q And could you tell us what journals your
11 publications did appear in that you can remember?

12 A You will get that on my C.V.

13 Q Okay.

14 A There are about 10 or 12 of them. And
15 they are mostly in occupational health - American
16 Medical Association journal, International Congress
17 of Occupational Health. That sort of thing, yeah.
18 I did much more writing within the associations and
19 within the company of things than in publishing
20 articles as such. I had enough out there that I
21 didn't -- My reputation was pretty well established.
22 So, I didn't have to feed or famine like professors.

23 Q Uh-huh.

24 A If I had something worthwhile to write
25 about, I would do it; but not otherwise.

1 Q So, at least you didn't recycle that
2 cholinesterase paper again 18 times?

3 A Well, as a matter of fact I did, but I
4 didn't list it for you. It got repeated by a number
5 of other journals in part or one thing or another.
6 I don't list it as such.

7 Q Did you -- Did you get acquainted with
8 Howard Kusnitz ---

9 A Oh, yeah.

10 Q --- in Cincinnati?

11 A Not in Cincinnati, but when he was with
12 Shell.

13 Q Oh.

14 A I might have known him in Cincinnati. I
15 can't remember when I did first know him. I have
16 known Howard for many years.

17 Q Well, Herschel reminded me last night that
18 Howard had been at the U. S. Public Health School
19 training program in Cincinnati. He may have been
20 one of the people that got it going. And ---

21 A I recall something to that effect.

22 Q I thought maybe ---

23 A At an earlier time as I recall or ---

24 Q Well, I'm thinking that it was not too -
25 it was in the decade after the war I believe.

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2 cholinesterase paper again 18 times?

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20 one of the people that got it going. And ---

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22 Q I thought maybe ---

23 A At an earlier time as I recall or ---

24 Q Well, I'm thinking that it was not too -
25 it was in the decade after the war I believe.

1 the '50's?

2 A Oh, he was a very top leader, very highly
3 regarded by in large and a very authoritarian and
4 dictatorial sort of person; but very nice despite
5 all of that. And most of us liked him very much.
6 And he was easy to work with. He would come out
7 with some fantastic pronouncements, and you could
8 beat him down pretty good sometimes.

9 Q But ---

10 A He was very top flight.

11 Q Sir?

12 A He was very top flight; a very good
13 researcher and administrator, too. He was really
14 one of the key people throughout the early years -
15 many years of the A.C.G.I.H., for example.

16 Q Now, this is the first time in our
17 diagnosis I think you have mentioned the A.C.G.I.H.

18 A It is? Maybe so. Okay.

19 Q But that's - for those that might be
20 hearing this for the first time - the American
21 Conference of Governmental Industrial Hygienists ---

22 A Yes.

23 Q --- correct?

24 A Yes.

25 Q And could you tell us what contact you had

1 with that organization along the way.

2 A Well, at one point when I was at the
3 university -- The membership of that was made up
4 primarily of health officers - local, state and
5 Federal - who had responsibility for working in
6 industry to help industries achieve safe working
7 conditions and exposures to things encountered in
8 the workplace that might be harmful. And the reason
9 was there were no standards whatever.

10 And I think right after the war when
11 industrial hygiene really began getting going, these
12 governmental agents really had no basis for making a
13 prudent decision of what was a safe level of
14 exposure to anything. And, so, they formed a --
15 It's a nongovernmental organization. It's a private
16 organization, but constituted (sic) of governmental
17 people and university people, too.

18 And they met periodically to share data
19 and to solicit data and to try to get a handle on
20 what ought to be guidelines. And they specified and
21 stressed there were guidelines for exposure limits
22 to various hazardous materials. They started off
23 with a very few things, and then over the years it
24 built up to quite a lot.

25 Q And this effort to create guidelines I

1 guess was the beginnings of what later got turned
2 into standards for exposures?

3 A Well, they didn't like that concept, of
4 course. They -- Throughout their history they
5 specified and stressed that they were guidelines.

6 Q Is that a view that you shared?

7 A Yeah, I think that was quite fine because
8 science was rather crude in the early days. And
9 particularly it's still not as good as you would
10 like to have it. But they didn't want it to have a
11 regulatory import because it gave it some aura that
12 they didn't feel it - was appropriate in that time.
13 And they wanted to be comfortable in their own
14 deliberations and in their own standard setting.

15 They always - at least at some early point
16 after its inception - did a thing called - gave a
17 two year notice of intended changes. In other
18 words, they published at this point -- So, this year
19 a notice of intended changes that will take place
20 two years hence before they would adopt a new
21 change.

22 And during that time they solicited all
23 the information that was available that people would
24 supply them, from industry, from government, from
25 academia, from whatever source to help them to be

1 sure that was the right thing. And then there was a
2 final vote - up, down or modified - before a
3 standard was - I say a "standard" - a safe level was
4 established.

5 Q Did you ever belong to the A.C.G.I.H.?

6 A No. As I said, I almost did when I was at
7 the University of Cincinnati. I had been invited
8 to; but I - I didn't. I knew that would be a
9 temporary thing for me. So, I didn't even give it
10 further consideration. I was very much interested
11 in it, though. I met with the people in Cincinnati.
12 I got to know Herb Stockinger quite well because of
13 that. He taught some of -- And that was one of the
14 field stations that we spent time in where they
15 had - where you had the opportunity to see and meet
16 these - the key people there and see the research
17 they were doing and got to know that whole field
18 because that was very integrally important to
19 doctors and so forth in industry. So ...

20 Q And Herb Stockinger I think you said had
21 been very active in - in the development of the -
22 the guidelines ---

23 A Yes.

24 Q --- the exposure guidelines?

25 A Yes.

1 Q And I suppose ---

2 A And he was one of the kingpins in
3 maintaining the whole thing for a long time.

4 Q Would he have been an authority on this
5 matter of exposure guidelines ---

6 A Oh, he ...

7 Q --- back in the '50's?

8 A That was his full -- That was throughout
9 his career. It was toxicology and related
10 administration and research and so forth.

11 Q In - in applying the guidelines to
12 preventive medicine and preventing exposures ---

13 A Preventive medicine?

14 Q Well, I ---

15 A Excuse me.

16 Q Well, I - I guess I'm thinking that
17 industrial medicine at the best ---

18 A Finish your question. I'm sorry.

19 Q --- is preventive medicine. Okay. But in
20 using the guidelines in industrial medicine and in
21 industrial hygiene, would you differentiate between
22 whatever organ system might be affected by the - the
23 toxic material or the chemical that you are trying
24 to protect from or just simply try to keep your
25 exposures below the guidelines regardless?

1 A That's a complex question. I don't know
2 where to - how to answer it really. Could you break
3 it down a little bit, or -- It got convoluted.

4 Q That's - that's my bad habit I'm afraid.

5 A I'm sorry.

6 Q Let me come back to that if I can get my
7 thoughts better organized.

8 A I got the essence of something you were
9 saying, and then I lost track of the ...

10 Q And I'm losing it myself. These
11 guidelines that the American Conference of
12 Governmental Industrial Hygienists published for
13 exposures to different materials came out in a
14 little booklet form that was sent around to doctors
15 and hygienists that were interested in it. Would
16 that be right?

17 A Yes.

18 Q Okay.

19 A I don't recall when the booklet part
20 started. I have got most of them, but ...

21 Q Well, at least it was published?

22 A It was published, yes.

23 Q And also I suppose published in
24 the Industrial Hygiene Quarterly and ---

25 A I think so.

1 Q --- elsewhere?

2 A I recall that it was, yes.

3 Q While at Cyanamid or at Western Electric
4 or Celanese did you ever provide any - any
5 information or data back to the A.C.G.I.H.?

6 A Yes, I did. Yes.

7 Q And what - what materials do you
8 remember ---

9 A There were two in particular. One was
10 vinyl acetate, and the other was acetone. There
11 were some others that we shared data on, but I had
12 major efforts on those two.

13 Q As a result of your input and that of
14 others, were the guidelines changed for those
15 materials?

16 A As a matter of fact they were, yes.

17 Q Were they raised or lowered?

18 A Well, in one instance a proposal for
19 lowering it two years hence was abolished. And in
20 the other it was actually raised.

21 Q That is to say the - the exposed - the
22 tolerable exposure was increased to a higher
23 concentration?

24 A Yes. Yes. It was a strange occurrence.
25 It had been at a higher level, and then it had been

1 lowered with no new data. And I objected to that
2 and got them to push it back up to where it had
3 been.

4 Q Was -- Because I know ---

5 A It remains there still.

6 Q Out of -- Out of curiosity, which one ---

7 A Acetone.

8 Q Acetone was the one where the - the
9 guideline was raised again?

10 A Yeah.

11 Q And the vinyl acetate - the proposed
12 tightening of the standard was ---

13 A Rescinded, yes.

14 Q --- not implemented?

15 A There were other ones I worked on, but
16 those were two that more often we were providing
17 toxicity data or experience data that we had that
18 they could be using.

19 Q Now, this ---

20 A I very often went to their annual
21 meetings, too, when they did these deliberations.
22 It occurred just in the beginning. We were ahead of
23 the national AIHA meetings. And they were quite
24 fascinating meetings. So, I ---

25 Q Oh. So, the - though the membership

1 wasn't open to industry employees, the meetings
2 were?

3 A No. No, it was not; but the meetings
4 were. At the annual meeting at least, yeah.

5 Q Of course it's important to remember that
6 this was strictly a volunteer organization - the
7 A.C.G.I.H.

8 A Now. Wait a minute. It was a volunteer
9 organization of what?

10 Q Well, the A.C.G.I.H. was a - an
11 organization which people chose voluntarily to
12 belong to.

13 A Oh, yes. It wasn't a part of AIHA,
14 though.

15 Q No, sir.

16 A It just happened they had the meeting at
17 the time because the same people would be ---

18 Q The same people ...

19 A --- in attendance.

20 Q Okay. And all of their work of the
21 A.C.G.I.H. members on the guidelines for exposures -
22 or not all of it - but a lot of it would have been
23 done on their - in their free time and just as a
24 matter of I guess professional conscious?

25 A Yes. Those who had knowledge, of course,

1 contributed on the things they had knowledge about
2 and ...

3 Q But that - that would explain I suppose
4 why a lot of the materials on the guideline table
5 didn't really get a - the periodic review that -
6 that they had hoped for?

7 A Was that a question?

8 Q Well, it was trying to be. I mean you
9 appreciate, don't you, that - that though the -
10 their papers said that each guideline was reviewed
11 annually, that that in - in reality did not - did
12 not happen?

13 A Well ---

14 Q Some were and some weren't?

15 A Well, every - every one was reviewed in
16 the sense that people in the committees - and this
17 wasn't done in the open meetings - but in their work
18 sessions and whatnot every compound was looked at.
19 And if somebody had a basis for suggesting that it
20 ought to be reassessed, they would do it. But if
21 they didn't, they wouldn't.

22 Q I'm thinking, though, that the
23 organization was dependent upon industry to provide
24 the information that would assist in this review ---

25 A Well ...

1 Q --- like just as you did on the acetone
2 and ---

3 A Yeah, industry or wherever they could get
4 it. They preferred nonindustry work. But that was
5 a valuable source, particularly through the
6 toxicology programs within industry.

7 Q But in reality wouldn't it have been the
8 industry chemists and toxicologists that generally
9 would have - would have the best knowledge about
10 the - the new chemicals and new substances, the
11 ingredients in their products?

12 A Well, the ingredients in products of their
13 own, of course. But all kinds of people were
14 working on toxicology evaluations, probably as many
15 in industry - in universities and government as
16 there was in industry. And I think by in large to
17 avoid any appearance of bias they preferred to not
18 rely as much on industry-generated data, even though
19 they knew that most of these toxicologists and
20 whatnot were highly professional people and just as
21 honest as the government or their own people would
22 be - but it looked better perhaps. There was some
23 sensitivity to that issue. But they welcomed data
24 submitted by anybody, but they assessed it on their
25 own independently and accepted or rejected it as

1 they felt appropriate.

2 Q I suppose critical to making any good
3 scientific evaluation of the guideline would be new
4 data - medical data, exposure data, the sort of
5 thing - the sort of information that you were trying
6 to develop in your medical surveillance program, for
7 example?

8 A Yes. That's true, yes.

9 Q Because you -- None of it could be just
10 approached in a vacuum?

11 A That is correct.

12 Q And you needed exposure history
13 information and medical surveillance -- Well ---

14 A Everything you could get.

15 Q --- medical information?

16 A Absolutely.

17 Q Okay. And animal testing ---

18 A Animal testing.

19 Q --- information?

20 A That was very important.

21 Q And am I right in thinking that if we go
22 back to the - the '50's, for example, that the
23 government's role in - in the testing of materials
24 and the regulation of materials used in industrial -
25 in industry and products was not near what it is

1 today?

2 A Oh, goodness, no. Yeah.

3 Q So, we are back again to being largely
4 dependent on the manufacturers of specific materials
5 as ---

6 A Well, you probably have to rely on
7 manufacturers, academic programs and governmental
8 programs. I would hazard a guess that they were
9 about equal parts.

10 Q Well, the Public Health Service, for
11 example, in those days did not have the - the legal
12 power to enter an employer's workplace - a factory
13 without ---

14 A Well, I'm talking about basic -- I'm
15 talking about basic research ---

16 Q Yes, sir.

17 A --- on the hazards of -- I know what you
18 are saying, yes.

19 Q And I - I don't suppose there was any
20 formal governmental program for gathering together
21 the - what shall we say - the mortality and
22 morbidity information from various trades that -
23 that would likely have industrial exposures, was
24 it - again, back to the '50's when you entered the
25 field?

1 A I'm a little fuzzy about what you mean by
2 that. I lost you somewhere in the ...

3 Q Okay. I was wondering what if any
4 government programs you recall from the '50's where
5 a State or Federal Government would collect
6 information about the incidence of, say, asbestosis
7 or silicosis or plumbism from, you know, the - the
8 industrial work force?

9 A Well, there were procedures for doing a
10 lot of that through reportable disease
11 requirements - reportable things that were required
12 or mandated. State and Federal Governments often
13 mandated the reporting of certain - of certain types
14 of data. When I got home last night I had the "New
15 Virginia" report on reportable diseases; there is a
16 section for occupational diseases at the end of the
17 whole thing. That was true for all of these. I
18 have kind of jumped the track here.

19 Q Well, we were talking about whether this
20 was going on in the '50's - this reporting of
21 industrial diseases.

22 A Yeah. I don't recall some of the other
23 parts. See, I came into it in the middle of
24 the '50's. And I'm just not sure how to answer your
25 question.

1 Q Well, now that I've asked you, I'm
2 thinking that there were some - some rudimentary
3 programs, maybe even in ---

4 A There was what?

5 Q There were some rudimentary programs for
6 gathering this information by industry, although
7 I - like at the New York Department of Labor.

8 A The labor department, of course. I
9 started to say that a minute or two ago, and I
10 failed to do so. The labor department, of course,
11 has retained a certain amount of data over the
12 years. It was probably not very sophisticated until
13 well into the '60's and even later.

14 Q I think ---

15 A But they did have gross data on a lot of
16 things of this sort, yeah. That's in a sense like
17 what I was saying about the "Virginia."
18 Governmental organizations would have things that -
19 the mandated reporting of certain types of things.
20 And like in Virginia, for instance, infectious
21 diseases - there is a list of which ones mandate
22 inspections. And there is a listing of the ones
23 that are occupational - if they require data being -
24 incidence data being reported.

25 It's well-known through the years that the

1 reporting has not been as good as it ought to be.
2 But it gave a rough sense of it - certainly a
3 proportional sense of what was occurring.

4 Q Would you mind stretching your legs for a
5 moment?

6 A I think that would be a very good idea.

7 Q All right.

8 THE VIDEOGRAPHER: Off the
9 record at 10:15.

10
11 (AT THIS TIME A BRIEF RECESS WAS
12 TAKEN, AND THE PROCEEDINGS THEREAFTER
13 RESUMED AS FOLLOWS:)

14
15 THE VIDEOGRAPHER: We are on the
16 record at 10:53.

17
18 (By Mr. Blanks)

19 Q Doctor, we chatted yesterday about the
20 origins of Celanese and the Dreyfus brothers from
21 Switzerland and their first plant in Britain and
22 then opening the plant in American in 1915.

23 A Thereabouts, yeah.

24 Q Thereabouts. But I wonder if you are
25 aware of any dealings that Celanese had with the

1 Hoechst Chemical Company that preceded the merger or
2 acquisition?

3 A No, sir, I do not.

4 Q To your knowledge there were no joint
5 ventures or relationships that involved
6 producing ---

7 A If there were, I don't recall them.

8 Q You probably know that joint ventures were
9 used by some of the other European chemical
10 companies ---

11 A Yes.

12 Q --- as a way into the ---

13 A Sure.

14 Q --- the U. S. Market? I think, for
15 instance, Bayer and Monsanto created Mobay.

16 A And we had a division in the fibers with
17 ICI, synthetic fibers - nylons, polyesters.

18 Q How far back did that division go do
19 you ---

20 A That started in the - shortly before I
21 joined the company.

22 Q Uh-huh. But Hoechst just came on the
23 scene and acquired Celanese whenever ---

24 A The whole corporation, yeah.

25 Q --- whenever that happened? And did that

1 occur while you were still ---

2 A No, that was several years after I had
3 taken early retirement.

4 Q I see.

5 A Probably about '85, somewhere like that.

6 Q Did your -- Did your work at Celanese or
7 at Cyanamid ever involve dealings with the ASA - the
8 American Standards Association?

9 A Not at -- Not at Cyanamid, but it did at
10 Celanese - I mean at Celanese Corporation, yes.

11 Q And am I right that the ASA became known
12 as ANSI?

13 A Yeah. ANSI, yeah.

14 Q American National Standards Institute?

15 A American National Standards Institute,
16 yes, sir.

17 Q Okay. And what kind of role did you have
18 with ---

19 A Well, I was a member at varying times on
20 several of their committees. You know, they had a
21 complicated structure. And when they brought out
22 a - I can't recall whether they called them
23 standards or what - it had to be voted on by all of
24 the members and whatnot. It was a very complicated
25 operation. But I was on a number of their

1 committees.

2 Q Do you remember what some of the
3 committees were?

4 A Well, one of the chief ones was Z.77,
5 which was the respiratory protection. My C.V. will
6 list -- There was one other that I was on. I can't
7 recall what it was right now. But I also had some
8 little relationships with others as an advisor, but
9 not - I don't believe as a member.

10 Q Do you recollect there was a - an ANSI
11 committee that was focused on industrial hygiene,
12 per se?

13 A I don't recall specifically, but I believe
14 there was.

15 Q It just occurred to me; I thought ---

16 A They had a lot of committees, you know.
17 There were a lot of these standards.

18 Q I thought there was once an effort to try
19 and actually promulgate some industrial hygiene
20 standards out of an ANSI ---

21 A There may have been. I wasn't involved
22 with it as such, I don't believe.

23 Q Okay. And what - what - what ---

24 A Although they did come out with some
25 standards as part of their recommendations on

1 certain elements of the papers, and I don't remember
2 just how the -- Because some of them were adopted
3 sometimes by other groups. In fact, I believe
4 OSHA'S adopted a few of their standards, or at least
5 in principle.

6 Q Uh-huh.

7 A I may be wrong. But they were considered
8 pretty authoritative, too.

9 Q What was the - the thrust of the
10 respiratory protection committee's efforts when you
11 were on that committee?

12 A A lot had to do with the development of
13 new masks and devices and whatnot to preclude
14 exposure. It got very complicated with all the
15 different categories of respiratory protection, from
16 self-contained to self-filtration, air supplied and
17 all of the routine types with organic vapors and
18 dusts and whatnot.

19 And it was a matter of trying to
20 standardized some of the definitions and uses of
21 some of these things.

22 Q And would it also ---

23 A I never was there -- I bet I was on that
24 committee for eight years, and they never finished a
25 standard the whole time. They kept going back

1 for -- They acted like our - The Republican Congress
2 this year.

3 Q Some of this work then is actually writing
4 a standard for, say, a mineral dust respirator or a
5 particular kind of vapor respirator in terms of what
6 it should filter out or do; or is that -- I mean is
7 that how that works?

8 A Yeah, at least generically. I don't know
9 that it related to specific materials. It probably
10 did in some instances, but ---

11 Q Okay.

12 A --- they were categoric like organic vapor
13 and -- There were some specific ones like lead.
14 It's just long enough ago that I can't remember all
15 the little details, but it was a very broad
16 coverage.

17 Q When you -- Speaking of respirators, I
18 guess do you recollect that back when you began your
19 practice of industrial medicine that the respirators
20 were approved by some government agency?

21 A Well, yes.

22 Q That would have been - what, the Bureau of
23 Mines at the time?

24 A The Bureau of Mines by in large, yes. At
25 that time, yes.

1 Q Did you -- Did you ever get - become
2 acquainted with the - the way in which the
3 certifications were obtained or the approvals?

4 A No, I - I never did. That preceded - was
5 later when I became concerned with that. And their
6 role was greatly diminished because NIOSH took over
7 a lot of it. And much of the research was done out
8 at Los Alamos, for example, for the -- I was out
9 there quite a few times on projects associated with
10 that and other things, too.

11 Q You say you were out at Los Alamos ---

12 A Yes.

13 Q --- a number of times?

14 A Yeah.

15 Q In connection with which of your ---

16 A Well, in connection with ...

17 Q --- employments?

18 A ... respirators in part, and some other
19 projects that were not related to that.

20 Q Was this -- Was this while a Celanese ---

21 A They used me as a consultant ...

22 Q --- employee?

23 A ... or a source of information about a lot
24 of things. And the head of it - Harry Ettinger - he
25 was the one who edited the - John Pendergrass'

1 attempt to bring the standards up to date with a new
2 version, and then it was knocked down at the very
3 end. But -- And there were others on that staff,
4 most of whom now are retired or dead.

5 Q Did you know Ed Hyatt out there?

6 A Who?

7 Q Ed Hyatt.

8 A Yes. I did, yes. Not well, but I did
9 know him, yeah.

10 Q These ---

11 A I believe that's who it was, yeah. I'm
12 pretty sure that was him.

13 Q These Los Alamos visits didn't have
14 anything to do with your Celanese employment?

15 A Not as such. The AIHA board met out there
16 several times. Good, Lord, I can see the fellow's
17 name. They hosted our meetings a number of times so
18 that we could be out there and work with them on
19 some subjects. It was the national board ---

20 Q Uh-huh.

21 A --- of the AIHA. And that was in the
22 mid-'60's - mid to late '60's.

23 Q Did you find ---

24 A Or early '70's, I guess.

25 Q Excuse me. Did you find that there was a

1 formal respirator program in - in place in the
2 Celanese Corporation when you arrived in '65?

3 A When I arrived in '65, no, I don't believe
4 there was, except insofar as safety might have had
5 one. They oversaw that in the early days. Later,
6 of course, it became more under industrial hygiene
7 and medical because of testing and the medical
8 provisions for approving respirator use, et cetera.
9 The standard of the AIHA is the respiratory
10 protection manual that we developed.

11 THE WITNESS: Larry Birkner - do
12 you remember that name?

13 MR. HUTCHINS: (Nodding
14 affirmatively)

15 THE WITNESS: You know Larry.

16 A He was one of Chuck Laubly's assistants in
17 the later years. And he prepared a manual for
18 Celanese Corporation and submitted it to AIHA for a
19 reference; and they adopted it as the AIHA manual,
20 recommending all the things appropriate for
21 respirator use at that time. I don't know if it's
22 still the -- It's probably been updated and whatnot
23 since. But I'm not quite sure where it stands today
24 because Larry changed jobs, and I haven't kept track
25 of it.

1 Q I'm sorry. Say again his name.

2 A I said Larry changed jobs, and I haven't
3 kept track of just what happened with that
4 subsequently.

5 Q No. I missed his last name the ---

6 A Birkner - B-i-r -- B-i-r-k-n-e-r. It was
7 quite a nice piece of work.

8 Q And when approximately would this manual
9 have been put out?

10 A In the early -- Wait a minute. In the
11 mid-'70's, early to mid-'70's. Mid-'70's.

12 Q I take it then that the respirator
13 manufacturers had not come together individually or
14 collectively and - and provided such a recommended
15 program to industry by that time?

16 A Well, some did quite a lot like Mine
17 Safety Appliance Company and Willson and some of the
18 other people. They tried more often to tailor their
19 equipment to meet the needs than to recommend to
20 industry what they should do. I think that's a fair
21 statement.

22 Q Of course, the critical thing about the
23 respirator program is I guess recognizing that there
24 are a lot of individual variations in face shape and
25 size and ---

1 A That's why I said fit testing and so
2 forth. It's a very complex issue. That's why Los
3 Alamos was so involved because they had the ultimate
4 laboratory for working with all types of facial and
5 head sizes and all the rest of the variables that
6 were very significant in terms of fit testing
7 because they had to - the responsibility for
8 providing safe - working with everything from atomic
9 energy and radiation sources and bacterial and many
10 things in addition to industrial toxins. They were
11 the -- They were in the forefront of all the work
12 that was being done in research and that - that
13 whole subject.

14 Q I guess that's one facility where the
15 hygienist really did have to aim at the complete
16 elimination of the exposures ---

17 A Well ...

18 Q --- to those materials?

19 A ... you never eliminate completely, but
20 cut it down to a very minimum possibility. If it's
21 in the -- If it exists, it's going to be there some;
22 but ...

23 Q Well, can you explain to the Jury simply
24 why it's important to actually have a respirator
25 program for your employees as opposed to just

1 handing them a respirator off the shelf to go out
2 and use?

3 A Well, there are a very great number and
4 types of respirators. And one is appropriate for
5 each category of substances that - or substance that
6 might be - for which you are offering protection.
7 By in large respirators are not intended to be used
8 full time as a substitute for good engineering
9 practices that would control it without the use of
10 respirators. And the greatest extent of respirator
11 use - except under exceptional circumstances like I
12 described in Los Alamos - would be for upset
13 conditions: Leaks, spills, or whenever there was an
14 excursion in the limit beyond that which was
15 allowable for a brief period to provide protection
16 or for getting - letting people get away from the
17 scene or whatnot. That's a quick and dirty ...

18 Q And then why is the fit testing critical?

19 A Because if there are any leaks based on
20 the fit - the mask not fitting tightly, completely -
21 and with all the different facial and head types and
22 variabilities, it's pretty hard to have a single
23 mask that can meet the requirements of all people.

24 And, of course, you have to make certain
25 provisions of the individual's usage, for example.

1 Beards, for example, by in large have to be excluded
2 from use in a good respiratory protection plan;
3 long hair, too much long hair and other - some other
4 things of that sort where they have to be very
5 carefully tailored. And then they have to be very
6 carefully checked. And there are techniques for
7 checking to see that there is no leakage. There are
8 odor tests; there are pressure tests, and there are
9 a variety of things that are used for being sure
10 that the fit testing is appropriate.

11 Q And then ---

12 A And then, of course, there are the medical
13 requirements to see that the person is fit to use a
14 respirator because some people find respirators
15 difficult. That's something that can be gotten
16 around with training and learning by in large. But
17 there are some medical conditions that - the extra
18 burden of respiratory protection because of
19 resistance and increased forces needed for breathing
20 to - like heart conditions or pulmonary conditions
21 that the individuals cannot successfully or safely
22 use respirators.

23 So, you test fit and fitness
24 appropriateness and the physical appropriateness of
25 the individual to use a mask - any respiratory

1 protection device, yeah.

2 Q And then there is a maintenance component
3 to the program?

4 A Oh, yeah, there are all kind of things
5 like that. Training is one of the most important
6 things. Second is providing the correct - the
7 correct -- The first thing is providing the
8 correct - I use the word mask as a general term -
9 generic - one that's appropriate for the particular
10 item that you want to exclude. If you are dealing
11 with a vapor, you don't want to use a dust mask.
12 There are some masks that combine certain features.
13 There are all types of variabilities, but you must
14 pick the right mask.

15 You must train the individual in how to
16 use it, how to maintain it, how to keep it clean,
17 how often to change elements of it such as the
18 cartridges on cartridge masks and then -- There are
19 many things of this sort.

20 And then there should be inspection by
21 somebody beyond the individual periodically to
22 assure that the conditions of the mask are
23 excellent; they haven't deteriorated or otherwise
24 mechanically failed to meet the needs of providing
25 the protection.

1 Q So, a well-conceived and properly
2 implemented respirator program ends up being a
3 fairly expensive ---

4 A Expensive, complex, difficult to
5 administer and it's a - it's a bitch.

6 Q Which would ---

7 A I mean it's a big, big issue.

8 Q Which brings us back I think to your
9 original point that respirators really rarely are
10 intended for full-time use, and cost is one of those
11 factors as well as the ---

12 A There are exceptional circumstances, of
13 course ---

14 Q Sure.

15 A --- but that's true.

16 Q Aggravation is ---

17 A And even then it's not full-time use day
18 in and day out but ...

19 Q I guess one exception to that would be,
20 for example, an air-supplied helmet for a
21 sandblaster. Now, that's - that's a case where you
22 absolutely have to have full-time use while you are
23 doing that work ---

24 A That is correct, yeah. For that period of
25 time, yeah.

1 point made a proposal to them on one of the
2 programs, and I can't recall which one it was.
3 That's when Hammond was medical director at that
4 point.

5 Q Did you mean to say Dr. Weaver?

6 A I meant Weaver, yeah.

7 Q You were thinking of James Hammond ---

8 A Jim Hammond.

9 Q --- the Exxon ---

10 A They were together down there.

11 Q --- chief hygienist.

12 A We were -- I don't recall some of the
13 other things. We had a close -- He and I were very
14 good friends, too. And we used to meet periodically
15 and talk over things.

16 Q "He" meaning?

17 A Weaver.

18 Q And you knew James Hammond as well I
19 gather?

20 A Oh, yes, very well. I knew Jim quite
21 well.

22 Q But did you know Dr. Weaver before he came
23 to - to the API as ---

24 A Oh, yes.

25 Q --- as the medical director?

1 but I never had occasion to go to the -- There may
2 be one or two others even, but I - I don't recall.

3 Q Did you find that the doctors and the
4 hygienists from Exxon - or Standard Oil as it was -
5 was called at one time - that these health
6 professionals from Exxon were open and inclined to
7 share health and safety information with people from
8 other companies?

9 A They certainly did. They certainly did
10 with me as far as I could tell, yeah.

11 Q Was that also common in the - in the
12 chemical industry in your experience?

13 A Pretty much, yes. There was no program
14 sharing, but it would be -- You utilized your
15 friends in other companies and whatnot as a resource
16 when you needed information, and they did the same
17 back. And then in some of the trade association
18 groups and the professional organizations even there
19 was a commonality or sharing things, sometimes
20 programs, but more often just informally between
21 individual participants - individual members I
22 should say. It was very good in the chemical
23 industrial I think by in large.

24 I never really -- I never had any
25 reservation about calling and saying, "Hey, how do

1 A We used to be tennis partners for years
2 and - and at some of the annual meetings and so
3 forth -- I knew him quite well.

4 Q And I take it you would have met Professor
5 Hammond during the - well, in Industrial Hygiene
6 Association activities?

7 A Yes, and - and others, too. Jim was - it
8 seemed like he was everywhere.

9 Q I'm sorry. He was what?

10 A I said Jim seemed to be everywhere. He
11 was one of those people that popped up all kinds of
12 places.

13 Q Do you recollect per chance the - the -
14 the Gulf Coast annual industrial hygiene symposia
15 that - that he organized for a number of years?

16 A I've heard of it. I've never attended it,
17 but ...

18 Q Okay. Just to jog your memory, I think
19 these typically occurred in Houston over a couple of
20 days. And he managed frequently to obtain national
21 caliber ---

22 A Yes.

23 Q --- speakers to come and ---

24 A California and the western states does a
25 similar thing, too, in the AIHA. I've gone to that,

1 other.

2 Q Let's speak briefly about the CMA again.

3 It's my understanding that at some point the CMA had
4 a medical committee of some sort and perhaps an
5 industrial hygiene committee, although ---

6 A Medical - medical committee.

7 Q Okay.

8 A I was chairman of it for several years.

9 Q Could you give me a time span we - we are
10 talking about here?

11 A Early '70's.

12 Q Was it ---

13 A Again, that's fraught with some
14 possibility of variation. I just don't recall
15 exactly at this moment.

16 Q So, you - you are saying you were chairman
17 of the medical committee ---

18 A Yes.

19 Q --- of the CMA ---

20 A Yes.

21 Q --- sometime around the early '70's?

22 A For about two years as I recall. Two,
23 maybe three.

24 Q Had - had this committee or something
25 equivalent to it existed for some decades at the

1 CMA?

2 A That's my recollection that it did. I
3 didn't know it until I -- My first exposure to it
4 really was when I joined Celanese Corporation.

5 Q What is your understanding of the function
6 and the - the activities of this medical committee?

7 A Well, it evolved during the time that I
8 was active in the CMA, and in addition longer than
9 the period that I was chairman. One of the big
10 functions of it was to review and write the medical
11 sections for the safety data sheets that were
12 industry standards for everything you needed to know
13 about a given chemical. Perhaps you have seen some
14 of those in years past. They were phased out in the
15 early to mid-'70's I guess - mid-'70's probably
16 because of the legal complexities that sharing
17 warning and other hazard information posed in
18 commerce.

19 It was a legal decision of the CMA to
20 abandon it even though it had been in existence for
21 many years and was the standard really for exposure
22 information, hazard information and all the
23 properties of the chemicals and things you needed to
24 know: Flammability, explosivity, what you could mix
25 with it, every kind of thing. It would be fairly

1 thick - 20- or 30-page bulletins.

2 And, so, that was a major responsibility
3 of the committee. And we reviewed them every -
4 well, periodically. I don't recall what the
5 frequency was. Probably every year or two to see if
6 there was -- Somebody reviewed them to make sure
7 they were update - they were updated - that they
8 were up to date. And if they weren't, they had to
9 be modified promptly.

10 We - we also dealt with common problems in
11 the chemical industry - medical problems. It was
12 strictly a physician group. Of course, it looked to
13 toxicological and industrial hygiene aspects as well
14 as clinical medical conditions. It was an
15 all-encompassing group who - of the CMA to which any
16 issue that had involvement with occupational health
17 would be brought, or the committee would bring their
18 awareness of a problem to the - the full body of the
19 CMA.

20 Q What was the - the name by which these
21 bulletins were commonly called in the ---

22 A Safety data sheets. And they were
23 numbered. There were probably -- As I recall there
24 were about 60 of them.

25 Q And I take it these safety data sheets

1 went back in time. They weren't just a creation of
2 the late '60's or the early '70's?

3 A No. Some of them had been existing for a
4 long time, and then others were added to it over
5 time. And occasionally one would get deleted.

6 Q Yes, sir.

7 A But I don't know when they started. It
8 was back some years, though, because I have seen
9 dates on some of them that preceded my time by quite
10 a period. But I don't remember what those dates
11 were. But it must have been in effect for ten or
12 more years.

13 Q I - I would presume that the creation and
14 modification of these safety data sheets would have
15 been a function of this medical committee at the CMA
16 in the prior decades?

17 A That was my understanding, too.

18 Q Okay.

19 A The medical part of it. They had other
20 components as I mentioned.

21 Q You might be interested or perhaps know
22 that the API had a series of "Toxicological Reviews"
23 as well. Had you come across those?

24 A I did. But I wasn't aware of them for a
25 long, long time. And I never did utilize them as a

1 major source of things to the best of my
2 recollection. They were somewhat more specifically
3 tuned to the needs within the petroleum business
4 and - as I recall. And they were never - never
5 something that I got deeply familiar with or was
6 involved with or -- I don't even recall who prepared
7 them or the like. So ...

8 Q Well, actually Professor Drinker at
9 Harvard ---

10 A He started it?

11 Q --- was handling that project. And I
12 think it dates back to the late '40's and ---

13 A Late '40's then?

14 Q Yes, sir.

15 A Sure.

16 Q And on into '50, '51.

17 A Yeah. I believe I had heard that, too.
18 It - it sounds familiar.

19 Q Where do you think you - you first
20 encountered the "Toxicological Reviews" of the API?

21 A I - I don't recall.

22 Q Did you ---

23 A It was late, though, it seems to me. Even
24 though I knew - I knew the prior medical director
25 Harold Golz who had been my boss at Cyanamid, for

1 example. He went there after he retired as medical
2 director of the API. But I never had any dealings
3 with him about API stuff during the time that he was
4 medical director that I recall. We were very good
5 friends, and I would see him at meetings and
6 whatnot; but not -- I never had any work involvement
7 with him that I can remember.

8 Q Did you ---

9 A I just don't know. It seems like it must
10 have been way into the '70's somewhere. And I might
11 have known about them but didn't pay much attention
12 or thought they were addressed too specifically to
13 the petroleum industry. But my memory of that is
14 rather fuzzy.

15 Q Did you ever meet a Dr. Marshall Clinton?

16 A Who?

17 Q Marshall Clinton. He was with Mobil after
18 going through the Harvard Public Health School.

19 A I don't recall that name.

20 Q Okay. I think he ended up almost his
21 entire career practicing up in Albany.

22 A Where?

23 Q Albany.

24 A New York?

25 Q Yes, sir.

1 A Where? Mobil?

2 Q Mobil had a refinery up there.

3 A Oh, they had a refinery. I don't recall
4 the name. I might have met him, but I don't recall
5 it.

6 Q Was there some industrial hygiene-related
7 committee at the CMA?

8 A Well, we had two health-related
9 committees. And I don't recall one that was AIHA -
10 I mean industrial hygiene per se. One was a medical
11 committee, and the other was a labeling and
12 precautionary informations committee of which I was
13 also a member and chairman for maybe one year. I
14 believe I was chairman of it for a year prior to my
15 being chairman of the medical committee. That may
16 not be correct, but it's close in that period. I
17 don't know if that answered your question or not.
18 I don't remember an industrial hygiene committee as
19 such.

20 Q And you - you did ---

21 A I can't say there wasn't, but I just don't
22 recall it.

23 Q Industrial hygienists were not members of
24 the medical committee, were they?

25 A Not to my recollection. We certainly

1 homed on them where we needed the help in a medical
2 standard or the like. They were members of the
3 "LAPI - the labeling and precautionary committee
4 meetings. We always called them "LAPI." In fact,
5 there were as many industrial hygiene and
6 toxicological people as there were medical on
7 that ---

8 Q I would think ...

9 A --- maybe more, yeah.

10 Q At the API the hygienists were sort of
11 second-class citizens of the Medical Advisory
12 Committee. They ---

13 A Is that right?

14 Q --- were associate members and couldn't
15 vote. Only the doctors could vote.

16 A Yeah. We certainly had access to them as
17 we ---

18 Q Sure.

19 A --- might need them. But the committee
20 membership was made up entirely of -- The medical
21 committee was made up entirely of physicians. But
22 the "LAPI" committee had a mixed - a mixed bag:
23 toxicologists, physicians, maybe some other -
24 industrial hygienists and perhaps some others.

25 Q Yeah, that would seem appropriate.

1 A Huh?

2 Q That would seem appropriate.

3 A Yeah, I think it was.

4 Q How far back does your contact with the
5 labeling and precautionary information committee go?

6 A Right after I joined Celanese in '65. At
7 that time Boyd Shaffer was the chairman. And he was
8 my former boss in toxicology at the Stamford
9 research laboratory of American Cyanamid. He was
10 the corporate director of toxicology, and he invited
11 me to join. As a matter of fact, Glenn Fleming was
12 really very much responsible for me joining both of
13 those. He said, "Get your butt down there and
14 join." So ...

15 Q Dr. Boyd had - was with Cyanamid?

16 A Boyd Shaffer.

17 Q I'm sorry.

18 A Yeah. Yeah. He was a director -- He's on
19 your list of people ---

20 Q Yes, sir.

21 A --- in the New York office.

22 Q And the name of the committee is pretty
23 self-explanatory, but I - I take it the purpose or
24 the goal of that committee was to develop clear and
25 complete warnings and labels to go on chemical

1 products that would end up out in the marketplace?

2 A That is right. The principal function was
3 actually to develop language for use with the
4 varying types of requirements for labeling - safe
5 labeling; and then there were illustrative
6 examples -- They had a manual called the "LAPI"
7 manual - it became an industry standard pretty
8 much - that had all the language - it was 100 or 200
9 different statements of the kind of provisions for
10 this and that type of problem. It was trying to
11 make it standardized pretty much so that if you read
12 it on one label and read it on another, they would
13 say the same thing and people would get to know what
14 they meant because you know how wordings can -- Each
15 person has his own way of wording things, and they
16 might not mean the same to people.

17 Q Well ---

18 A And then they had illustrative examples of
19 a number of labels. It was a lesser number of
20 those. They were usually large volume
21 commodity-type chemicals and so forth - industrial
22 chemicals, yeah.

23 Q And ---

24 A And it was strictly for industrial
25 chemicals, too. It was not for consumer use.

1 Q That is ---

2 A Do you remember we discussed that
3 yesterday?

4 Q --- the latter?

5 A Huh?

6 Q The latter topic. I mean the "LAPI"
7 manual dealt with ---

8 A The chemical - industry use, not consumer
9 use. In other words, not for the householder. It
10 was for the chemical industry. We didn't label
11 chemicals for use in industry saying, "Do not
12 swallow" or "Do not take by mouth"; that was
13 implicit as part of an understanding of chemical
14 industry practices. And it didn't tell a lot of
15 things that a householder would need because these
16 were large volume chemicals and supplied from one
17 company to another and for use in making other
18 products by in large. And it was the intent of that
19 to cover just the industrial use hazards.

20 Q The intent of the labeling and the
21 precautionary information committee was just to
22 write labels and precautions for industrial use?

23 A Yes.

24 Q Was there a - a similar effort to deal
25 with the products that actually ended up in the

1 hands of - of end users?

2 A Well, I wasn't involved in that by in
3 large. And most people in the industry were not.
4 Now, if they had a consumer division, you know, they
5 might. But Proctor & Gamble did, for example,
6 because they marketed it directly to the
7 householders and so forth. But most of the chemical
8 companies did very little of that. And if they had
9 a product -- Well, I think Carbide had one of the
10 big antifreezes, for example.

11 Q Prestone.

12 A And that would be handled by something
13 other than by the "LAPI" practices.

14 Q I see. Well, are you thinking that was,
15 in fact, a CMA committee that - that focused on
16 labeling for consumer products?

17 A No, I don't believe there was because
18 that was not our thrust. The thrust was with
19 industrial chemicals ---

20 Q I see.

21 A --- period. Not - not consumer products.

22 Q Well, I'm glad you cleared that up.

23 A The companies that had consumer products
24 had to take that up some other way, and I don't
25 remember what was out there at that point.

1 Q Okay. So, if Celanese had some consumer
2 products that required warnings and precautionary
3 labeling, Celanese wrote those warnings ---

4 A I did.

5 Q --- themselves?

6 A Yeah. As a matter of fact ---

7 Q Sir?

8 A I did because I had responsibility for all
9 product safety. I had to approve every new product,
10 every new label, everything for the whole
11 corporation. It was a hell of a job.

12 Q That - that sounds very interesting and
13 very ---

14 A But there weren't that many products. It
15 still was a hell of a job. And we didn't have very
16 many products that had any toxicity that were - or
17 we had concern about because a lot of it -- Over 50
18 percent of the business was fibers - 60 percent
19 probably. We did have problems with some plastic
20 materials and some paints and coatings. On plastics
21 Charlie Hine and I ended up writing for the society
22 of the plastics industry a similar thing to the
23 "LAPI" manual. I don't know if that still exists
24 now or not.

25 Q I would like to amplify that point you

1 made, though, about your responsibilities for
2 reviewing products and labels before Celanese put
3 something out in the market. Was this -- Well, one,
4 why - why was this thought to be necessary?

5 A Well, it was health and toxicology -
6 health and toxicologically related primarily. Those
7 were the issues. And who but me was the one in the
8 company that had that knowledge and capability.

9 Q I guess I was going to the broader
10 question: Why did Celanese bother to worry about
11 the labeling and the instructions on the packages
12 dealing with health and toxicology issues?

13 A Well, we didn't, of course, on industrial
14 chemicals, except insofar as there was labeling of
15 major shipment loads and so forth - the ICC rules
16 and things of that sort. But if we had commodity
17 chemicals and they were infrequent - a few in number
18 I should say - we would have to look at it from a
19 different perspective, of course. The homeowner's
20 use of a product is totally different than the use
21 in a factory of bulk chemicals.

22 Q Okay. In the factory you have a routine
23 process and procedure?

24 A Yes. Yes.

25 Q You have employees that are trained for

1 handling ---

2 A Exactly.

3 Q --- that material? You have equipment to
4 safely handle the material?

5 A And the knowledge and so forth.

6 Q Engineering controls to prevent
7 exposures ---

8 A That is right.

9 Q --- and such?

10 A By in large, yeah.

11 Q And I guess it's like we were saying
12 yesterday with the pesticide issue, the - the more
13 difficult control and training in - and the safety
14 problem comes in field use by - or in the home use
15 by the ultimate consumer ---

16 A (Nodding affirmatively)

17 Q --- correct?

18 A Well, for those chemicals that were sold
19 for home use and so forth, yes.

20 Q But I guess the point I was trying to get
21 you to make and which you didn't and may not yet
22 make but - was - was Celanese concerned about the -
23 relaying health and toxicology information to the
24 consumers of its - of its products, not the
25 industrial purchasers, but ---

1 A Well, we even did that, too. Yes, it
2 would be. I can't recall right off the top of my
3 head what products were that way. For example, more
4 than 50 percent of the company's business was in
5 fibers. I will never forget the time the Kentucky
6 State Health Department got ahold of me to see what
7 was the hazard of polyester fiberfill, which was
8 pillow stuffing. I told them there was no hazard to
9 pillow stuffing.

10 Q Well, was it the policy at Celanese when
11 you arrived to inform customers of the - the
12 perceived and suspected health hazards that went
13 with the Celanese chemicals and products?

14 A Yes. I - I took a little license and
15 skipped over one element. We had what was called a
16 commercial hazards committee. There was a corporate
17 committee, and each of the operating committees --
18 Each of the operating companies had its - it's own
19 commercial hazards committee. And these were by
20 edict and with policies spelled out completely for
21 what the responsibilities were.

22 Every new product had to be submitted
23 through the operating company's commercial hazards
24 committee to the corporate committee with all of the
25 data necessary to help support what was being

1 proposed. And I signed off on the health elements
2 of it. And then the whole committee had to sign off
3 on the acceptability of it for meeting other and all
4 labeling requirements.

5 We had lawyers, members of the -
6 executives of the units, toxicologists when we had
7 our own toxicology department finally, medical
8 information specialists, hazard information
9 specialists and so forth. So, it was intended to be
10 as complete a review as you could make to provide
11 that we met the requirements and responsibilities
12 legally to adequately warn where it was necessary -
13 necessary.

14 Q Now, this committee didn't just focus
15 on - or didn't get involved after the product was in
16 production, did it? I mean this was a ---

17 A Well, it was done before it actually hit
18 the market by in large; but sometimes the variance -
19 the variance of a product, if it were minor,
20 wouldn't be taken up until after the fact if it was
21 thought that it wouldn't be materially different.
22 But by in large it was - it was something done prior
23 to its being put into the marketplace. And that
24 included industrial chemicals as well as - and it
25 was commercial - I mean consumer products.

1 Q Was there a counterpart to this kind
2 of ---

3 A Safety, too. I'm sorry.

4 Q Who was on ---

5 A I'm sorry. Safety was another - because
6 there would be things like flammability,
7 explosivity, other hazards that might have a safety
8 perspective. So ...

9 Q Did American Cyanamid have a similar
10 procedure?

11 A They did. I wasn't directly involved with
12 it, but Boyd Shaffer by in large headed that up.
13 Maybe Dr. Hamlin had the overall sign-off, but --
14 And I don't remember because I was not on corporate
15 staff. Don't forget that most of the time I was a
16 plant physician for the better part of the time -
17 plant or division.

18 Q Well ...

19 A We participated somewhat at times, but we
20 didn't have the responsibility or the administration
21 of it.

22 Q Dr. Dixon, when Celanese was considering
23 either using a new raw material or even considering
24 whether to make a new chemical product, did - was
25 there a similar review of the health and safety

1 aspects before deciding to produce it?

2 A Supposedly, yeah. And that had been going
3 on I might add for years before I got to the
4 company. Sometimes something would slip through,
5 but by in large it was prescribed to pretty fully.

6 Q And I suppose that inquiry - the
7 preproduction inquiry would - would be concerned not
8 only about the health hazards that the end product
9 might pose to customers but was also concerned about
10 the potential hazards to Celanese employees who
11 might be having to make the material?

12 A Well, that information would be handled
13 separately. The one for the product would be
14 through commercial hazards; the other one would be
15 through the medical/industrial hygiene line
16 organization for use in the protection of employees.
17 That would be totally separate.

18 Q But both ---

19 A It would be the same information
20 perhaps ---

21 Q Okay.

22 A --- but it would be handled - or similar
23 information, but it would be handled with respect to
24 its end objective, which in the one case was
25 employee protection and the other - our employee

1 protection; and the other was consumer, industrial
2 or household or whatever.

3 Q But in - in either event your input would
4 have been critical to the - to that review?

5 A It was one part of it, yes. And it was
6 critical I guess.

7 Q When did you get a toxicology department
8 or a toxicologist I guess at Celanese?

9 A In the early '70's - mid - I guess early
10 to mid-'70's, the first one. We had had all of our
11 toxicity work farmed out to consulting groups at
12 established laboratories by in large prior to that
13 time. They worked at our pleasure, or unless we
14 oversaw what they did; but they did it, and they
15 advised us and whatnot. I mentioned one of them was
16 Hazleton right ---

17 Q Yes, sir.

18 A --- out here, for example. There were
19 many others.

20 Q And do you recall who your early
21 toxicologists were at Celanese?

22 A The first one was John Clary. We
23 employed John from the Haskell laboratory of
24 du Pont. And then he employed at least two
25 additional toxicologists before I left. And we went

1 through a repeat deliberation as we had gone through
2 two or three times earlier about whether we should
3 have our own toxicology laboratory or continue to
4 use outside consultants. And a decision was made
5 perhaps wisely to continue farming it out.

6 Q But did Celanese continue to have a
7 toxicologist on staff after ---

8 A Oh, yes, and they still do. I've had
9 acquaintance with some of them recently.

10 Q I mean after the decision was made to
11 continue farming out the laboratory work, you still
12 had a toxicologist on the ---

13 A Oh, yes. Yes.

14 Q --- on the payroll? And I suppose
15 Mr. Clary or Dr. Clary ---

16 A Doctor, yeah.

17 Q --- was working out of the central
18 research facility?

19 A No. He worked out of the corporate
20 headquarters. He worked in the medical department
21 in New York.

22 Q Do you ---

23 A That was a medical health function, not a
24 research function in that sense, yeah.

25 Q Is Dr. Clary still living?

1 A Yes.

2 Q Is he younger than you do you think?

3 A Yes.

4 Q I was just curious about how long ---

5 A Anybody is younger than me, but go ahead.

6 Q Not really. Chuck Laubly is not. Do you
7 know approximately how long Dr. Clary had been at
8 Haskell laboratories at du Pont before joining
9 Celanese?

10 A Somewhere between five and ten years.
11 Probably nearer five. I'm hazarding a guess. He
12 had been at one of the governmental agencies prior
13 to that, and I can't recall. I knew him before he
14 went to Haskell, but I can't remember where he was.

15 Q Okay. Well, that's another thing I can
16 check off.

17 A Haskell is the corporate toxicology
18 laboratory of du Pont.

19 Q Yes, sir.

20 A Yeah.

21 Q Down in Wilmington, Delaware, area I
22 think?

23 A Newark, yeah.

24 Q Okay.

25 A Newark, Delaware. It's not Newark,

1 "New'ark."

2 Q "New'ark." Actually we got to visit their
3 library once upon a time.

4 A Huh?

5 Q Herschel and I got to visit their library
6 once upon a time ---

7 A Yeah.

8 Q --- some years ago. It's a pretty good
9 size library. I wanted to finish dealing with these
10 organizations, and I'm fearful that you have already
11 told me about one other. The Industrial Hygiene
12 Foundation we talked about a little bit yesterday.

13 A Yeah. We talked about that pretty well.

14 Q We did. And I don't remember if you told
15 me that Celanese was a member of that organization.

16 A Yes, and I was on the board and all that.

17 Q Okay.

18 A And de Treville ---

19 Q Yes, sir, I remember that part. And do
20 you recollect that Cyanamid - American Cyanamid had
21 also been a member?

22 A I presume so. I don't recall who the
23 specific members were. It was pretty widely
24 subscribed to. But I didn't have a corporate
25 stature in the days in Cyanamid - in Cyanamid.

1 Q Right.

2 A So, I didn't represent the company at any
3 of those functions.

4 Q You wouldn't have been ---

5 A Except on a rare circumstance.

6 Q --- back in those earlier years?

7 A Yeah.

8 Q Okay. And then the National Safety
9 Council we - we know was an important safety and
10 health information source in the decades gone by.

11 A Yes.

12 Q Would your job have you attending meetings
13 of the National Safety Council?

14 A Glenn Fleming wouldn't let me not go to
15 one of their meetings.

16 Q Okay.

17 A I don't recall any specific roles that I
18 had with them as such, like a committee or whatnot;
19 but I was involved with them, but ...

20 Q The -- I suppose there were local meetings
21 of the NSC sections or divisions?

22 A I don't know.

23 Q You would have attended the annual
24 National ---

25 A The ones in Chicago, the big meetings.

1 Q --- the Safety Congress?

2 A I might have attended some meeting when
3 they - if they had a special topic or something but
4 not otherwise.

5 Q You mean you wouldn't have attended a
6 local ---

7 A Local, yeah.

8 Q --- type meeting?

9 A In fact, I don't even recall whether there
10 was a local or not.

11 Q Well, I ---

12 A There may have been.

13 Q --- I'm not sure.

14 A Yeah. I'm not either.

15 Q So, you and Glenn Fleming would then go
16 annually to the annual or National Safety Congress
17 they called it?

18 A And he, of course, went to much more than
19 I would. Sometimes he would accompany me to some of
20 the health and industrial hygiene meetings, too.
21 There was a very close -- Because he was very active
22 in it, and his organization had a very responsible
23 role as we talked about yesterday and - prior to our
24 developing our own program.

25 Q Well, this cross-pollination, so to speak,

1 between the - with the doctor and the safety man and
2 the hygienist are again a very important part of a
3 good program, aren't they?

4 A Yes, they were, extremely.

5 Q I mean you are kind of depending on those
6 other professionals to be your eyes and ears out in
7 the plants?

8 A It was very symbiotic, very important and
9 necessary that it be close.

10 Q And I suppose likewise the hygienist or
11 the safety man would be ---

12 A The same thing.

13 Q --- depending on you for ---

14 A And many of the ...

15 Q --- information.

16 A ... gentlemen were Certified Safety
17 Professionals so that they had dual interests.
18 Chuck was a CSP, for example.

19 Q Okay.

20 THE VIDEOGRAPHER: Joe, can we
21 go off the record to change the tape?

22 MR. BLANKS: Well, please do.

23 THE VIDEOGRAPHER: Off the
24 record at 11:48.

25

(AT 11:48 A.M. THE DEPOSITION
WAS RECESSED FOR LUNCH. AT 1:02 P.M.
THE PROCEEDINGS RESUMED AS FOLLOWS:)

THE VIDEOGRAPHER: We are back
on the record at 1:02.

(By Mr. Blanks)

Q Doctor, did your - during your
professional career did you ever have any contact
with the Saranac Lake laboratories and the Trudeau
Institute?

A Not directly, no.

Q Were you aware of ---

A I was aware of it, but -- Yes, I was aware
of it.

Q And aware that even back into the '30's
and '40's that it had done a good bit of research in
the silicosis area?

A I was aware of that, yes.

Q And, of course, there was a tuberculosis
sanatorium there ---

A Yes.

Q --- as well. But you never attended any
symposia there?

1 A No. I grew up many years in Albany, and
2 we visited Saranac Lake; and I had seen the facility
3 in earlier years. But I never did have any
4 professional visits there. I was aware of some of
5 the people and things like that later.

6 Q Anybody from up there that you recall
7 knowing?

8 A Well, Art Vorwald for one. Frank Princi
9 was another. And, of course, we all know about
10 Schepers.

11 Q Yes, sir. I think he was the last
12 director of the laboratories.

13 A I presume that's correct.

14 Q He followed Dr. Vorwald?

15 A Yes.

16 Q Do you know where Dr. Vorwald went after
17 he retired ---

18 A Yes.

19 Q --- from Saranac?

20 A He -- Well, I don't know whether he
21 retired, but he left there and went to Wayne State
22 University as a professor of preventive and
23 occupational medicine. I don't -- I'm sure he's
24 retired. He may not be alive even now.

25 Q I think he's been deceased for a number of

1 years now.

2 A Yeah, I think so, too; but I just can't
3 recall.

4 Q And what was Frank Princi?

5 A Huh?

6 Q What was Frank Princi?

7 A Well, Frank Princi was the No. 2 man at
8 the Kettering laboratory. And he had spent a stint
9 up there at some point prior to joining the
10 Kettering faculty as I recall. I don't think I'm in
11 error about that. He knew the people up there. He
12 knew -- He had known Gardner, and he had known, of
13 course, Art Vorwald. I met Vorwald like I met so
14 many of the early leaders at Kettering when they
15 would come down and give seminars and so forth. You
16 know, there probably were a few other people; but I
17 can't - I can't think of their names at the moment.

18 Q Okay. Had you ever met Dr. Schepers
19 anywhere along the way?

20 A I think I met him one time back in the
21 early '70's. I have a recollection that I did, but
22 I wouldn't know him if I saw him. He lives just a
23 few blocks from where I am as a matter of fact. I
24 know where his house is in Langley. He lives around
25 the corner.

1 Q Actually he had come over and worked a bit
2 with Dr. Lanza when - when Schepers - Dr. Schepers
3 was finishing his - I guess a dissertation as part
4 of his graduate studies.

5 A Schepers did?

6 Q Yes, sir.

7 A I guess I wasn't aware of that, yeah.

8 Q And I want to tell you that ---

9 A And he went to du Pont at some point. I
10 don't know whether it was before or after.

11 Q It was after. I think he -- If I remember
12 correctly he was a student of Dr. Lanza maybe in the
13 early postwar years - late '40's maybe and ---

14 A A student?

15 Q Sir?

16 A A student of Lanza?

17 Q Well ...

18 A Because Lanza was in the Public Health
19 Service and then he went to Metropolitan and then he
20 got into academics after he retired from
21 Metropolitan as I recall.

22 Q Let me -- Then let me take that back. I
23 know that he conferred with Dr. Lanza and had some
24 guidance on his dissertation and that project.

25 A Oh.

1 Q And I think if I remember ---

2 A Yeah. I don't know where he - what
3 training he had. I guess he's a Ph.D.

4 Q He's an M.D. and I think a DSC like
5 yourself.

6 A Yeah. Okay.

7 Q I believe. Lanza had sent him around to
8 various industries to ---

9 A Yeah.

10 Q --- learn about the programs here;
11 just ---

12 A Something like we did here.

13 Q Uh-huh.

14 A Well, was that in the period after Lanza
15 left Metropolitan?

16 Q You know, I confess; I am not clear in my
17 mind when Dr. Lanza left Metropolitan.

18 A I had trouble thinking about that the
19 other day. You know, I mentioned something about
20 that earlier. And I was trying to reconstruct
21 something in my mind. And I think that he left
22 Metropolitan in '49 or '50 - '49 or '50. It was
23 right along in that period, and then he established
24 the New York University program in industrial
25 medicine and so forth because I applied there.

1 Q Okay.

2 A Yeah. In '53 getting ready for the '54
3 entry.

4 Q That sounds right ---

5 A Okay.

6 Q --- to me, too. In the '50's it was the
7 case, wasn't it, that doctors and hygienists at the
8 NYU school were available as consultants for hire to
9 industry; or were you aware of that?

10 A I presume some of them were, yeah. Most
11 of the schools did that, yeah.

12 Q And I think the - Kettering we
13 discussed ---

14 A Yes.

15 Q --- did consulting work for industry?

16 A Yes.

17 Q And at some point the Saranac Lake
18 laboratories also provided these kind of services;
19 correct?

20 A I - I -- That's my understanding, yes.
21 And I don't know how they were sponsored or
22 whatever, but I know they did -- Industry was
23 involved some with their work, so - probably
24 supporting it and so forth.

25 Q And I believe the Industrial Hygiene

1 Foundation also provided such consulting services
2 for a fee.

3 A At varying times. Not all periods, but at
4 varying times.

5 Q And I guess the point of that was that
6 even for companies smaller than a Celanese or a
7 Cyanamid or a du Pont, there were at least
8 professionals available with training like you had
9 and like Chuck Laubly had ---

10 A Yeah.

11 Q --- to - for consultation to deal ---

12 A Although ...

13 Q --- with problems?

14 A ... the field wasn't developed with the
15 numbers of people, and it wasn't a widely known
16 thing to the degree that it became later; but still
17 I think it did exist. Well, I know it existed, yes.

18 Q You mentioned this morning before we began
19 that you found the old copy of Industrial Dust ---

20 A Yes.

21 Q --- that you have in your library.

22 A Yes.

23 Q Drinker - The Drinker and Hatch book.

24 A Drinker and Hatch book written in '36.

25 Q Was ---

1 A I opened the thing up and the first thing
2 I saw was a bookplate - A. G. Cranch. His daughter
3 gave me his books when he died. So ...

4 Q Would that text have - or reference book
5 still have been in use when you went through medical
6 school and ---

7 A Medical school?

8 Q Yes, sir.

9 A Well, I wasn't aware of it.

10 Q How about when you were studying at
11 Kettering, when you ---

12 A I wasn't aware of it I don't think at that
13 time. As a matter of fact, when I opened it and
14 looked at it just briefly in the middle of the night
15 when I was wandering around because I couldn't
16 sleep, I was astounded at finding the Cranch
17 bookplate. And in the back was some little
18 publication - it didn't relate to things we are
19 concerned with here - but dated 1920. And it was an
20 order sheet for something - a bulletin of some sort.
21 And I don't think I had ever opened that book.

22 Q Okay.

23 A Because it was old by the time I got it.
24 I got it in '65 or '66. Yeah, in the - in the - a
25 month or two after I joined Celanese; right after

1 Dr. Cranch died.

2 Q It would be true, though, wouldn't it,
3 that dust was recognized as a hazard in industry in
4 the - at least a decade before you went to medical
5 school? .

6 A Wait a minute. Say it all over again.
7 I'm sorry.

8 Q I said it would be true, wouldn't it, that
9 dust was recognized as a potential health hazard in
10 industry even before you went to medical school?

11 A Before I went to med school?

12 Q Oh, yes. As evidenced by this 1936 book.

13 A There were some dusts that were.

14 Q Yes, sir.

15 A Many dusts that aren't, yeah.

16 Q Okay.

17 A I mean dust categorically wasn't
18 necessarily considered significantly harmful, except
19 as a nuisance. But there were specific dusts that
20 were pathognomonic of various ---

21 Q They were what?

22 A Pathognomonic.

23 Q Okay.

24 A In other words, that means they are able
25 to produce abnormal results and so forth.

1 Q And among those obviously were the silica
2 dusts - free silica dusts?

3 A Yes, that was one of the chief ones.

4 Q And asbestos as well was recognized as a
5 dust hazard even in ---

6 A When?

7 Q Well, certainly in the - in the 1930's,
8 again as reflected in the publication of that era.

9 A By people who were involved in that area
10 of concern. I don't think generally this was
11 understood. I don't think physicians generally knew
12 it. Even the whole time I was at Kettering we
13 referred to it primarily as a nuisance dust; that if
14 it were - otherwise if exposure is higher than what
15 were encountered in this country - were encountered,
16 it might produce what was then being called
17 asbestosis. But we didn't expect to see it and in
18 large measure did not in those days.

19 Q I suppose the best indicator of what was -
20 was knowable to doctors and industrial hygienists in
21 those years before you began your studies would be
22 the publications in the field, the literature - the
23 medical literature and the industrial hygiene and
24 toxicology literature in ---

25 A In what period?

1 Q Well, in - certainly in the decade before
2 you started your medical school studies.

3 A What? I'm having a little trouble with
4 the question.

5 Q Okay.

6 A I'm sorry. I got that part of it, but
7 then I lost the front part.

8 Q Let's start over.

9 A My fault.

10 Q Looking back to these years before you
11 went to medical school, one way of seeing what -
12 what the concerns and the information was for
13 doctors and hygienists and toxicologists would be
14 the published medical literature of whatever era you
15 are looking at; correct?

16 A You mean would that be the source of
17 information about it?

18 Q Yes, sir.

19 A Well, I presume so. There wasn't much, of
20 course. I glanced in the Drinker/Hatch book last
21 night just to see what - if it covered asbestosis;
22 and it did in a few little sentences here and
23 there. And it did allude to the fact that there
24 could be asbestos, but - asbestosis, but that it
25 wasn't seen really much in this country. And - but

1 it gave a pretty short description. And it didn't
2 relate to any other problem than the possibility of
3 asbestosis.

4 Q Okay. And ---

5 A That was in '36.

6 Q Okay. And by then Dr. Lanza and others
7 had done at least ---

8 A Excuse me. I was -- Let me add one other
9 thing. I should say that even through the whole
10 period that I was at Kettering through 1957 - and I
11 have gone back and - earlier, not in connection with
12 this case - but verified by talking to some of my
13 classmates and others who were there at that time
14 that asbestos was essentially not mentioned. The
15 big concern was silicosis and silicotuberculosis and
16 some other types of problems that were very much
17 around. And coal dust was the big issue that we
18 were concerned with at that point during the
19 mid-'50's. And that was a - quite a -- It was a
20 very - kind of a quagmire getting through all of
21 that. And asbestos just never emerged as something
22 we even talked about. I don't ever recall it being
23 mentioned there as something specific; so - through
24 '57.

25 Q Mentioned where, sir?

1 A Huh?

2 Q You said you didn't recall it being
3 mentioned there. And I was wondering where you ---

4 A At Kettering. I'm talking about -- The
5 whole thing I was talking about was Kettering, yeah,
6 while I was there in the training program. I'm
7 sorry. I'm having a little trouble pulling that
8 together.

9 Q Okay. And I guess a lot of the focus at
10 Kettering would necessarily have been on new
11 materials and chemicals that had come out of the -
12 the wartime industry and the - the decade and ---

13 A Well, from a research standpoint.

14 Q Yes, sir.

15 A But from a teaching standpoint we had to
16 go through all of the traditional things that were
17 known to exist pretty much, but the research program
18 would have been more related to new or on things
19 where we needed further information.

20 Q Okay. When you arrived at the Celanese
21 headquarters to take up your new job there in
22 association with Dr. A. G. Cranch in 1965, what did
23 you find by way of a library or a reference
24 collection that - for the medical department -
25 medical director?

1 A It was a fairly good library. We had --
2 We had subscriptions to all the major regular
3 publications in the field of occupational health,
4 general medicine; a fair representation of
5 textbooks. As I said, Dr. Cranch had his own
6 library there - not all of it, but it was there.
7 And Dr. Osterritter had some additional stuff. But
8 it was reasonably adequate.

9 Q And I would assume Dr. Cranch's books
10 dealt largely with occupational medicine topics?

11 A All the books of his to my recollection
12 were occupationally oriented.

13 Q And didn't he have a toxicology background
14 as well?

15 A Yes, from Carbide as you recall. And he
16 had been one of the authors in the Patty textbook,
17 as had Dr. Hamlin at Cyanamid.

18 Q And as you mentioned, Dr. Cranch's
19 widow ---

20 A His daughter, yeah.

21 Q I'm sorry. --- his daughter basically
22 bequeathed ---

23 A Yes.

24 Q --- these books to you when he passed
25 away?

1 A Or I guess maybe when he was sick or at
2 some point. I was away. He got sick, and in four
3 days he was dead. And I never saw him after he
4 became ill. So ...

5 Q Well, that's a pity.

6 A Yeah.

7 Q Dr. Cranch was an M.D.?

8 A Oh, yes. Yes. He was a medical director
9 for Carbide.

10 Q Formally the medical director at Union
11 Carbide ---

12 A Yes.

13 Q --- before he became or immediately before
14 he became the consulting medical director for
15 Celanese Corporation?

16 A That's correct.

17 Q We - you mentioned medical journals or -
18 excuse me - you mentioned journals that you received
19 at Celanese and which you found in the library
20 there - the medical library.

21 A Yes.

22 Q These would have included such journals as
23 the Journal of the American Medical Association?

24 A Yes. Although -- Well, go ahead. Yes.

25 Q Would Lancet have been among those

1 journals?

2 A I don't believe so. At some point at a
3 later time I did get Lancet at varying times, but
4 not even on a regular basis later.

5 Q Okay. So, that's not ---

6 A We could have access to it at one of the
7 med schools if something appeared in it that was
8 meritorious.

9 Q How would you learn of articles appearing
10 in publications that you didn't subscribe to?

11 A Well, there was a service in the New York
12 area. I first encountered it when I was at Stamford
13 research headquarters of American Cyanamid company
14 in which index pages of journals were photocopied
15 and circulated to subscribers to - in this service.
16 And I got quite a compendium of those. They were
17 inexpensive, and you could look through them very
18 quickly to see if there was anything that you wanted
19 to look through. I don't recall the -- I'm sure
20 Lancet was one of them in that listing.

21 Q But ---

22 A That was British.

23 Q Yes, sir.

24 A But not too many foreign ones. I think
25 most of them were domestic.

1 there a predecessor medical director to the - to
2 your predecessor at Celanese - Dr. Osterritter?

3 A Well, Dr. Cranch ---

4 Q Okay.

5 A --- had filled that role. Prior to that
6 time we had the one consulting dermatologist
7 involved who recommended we have that. Otherwise,
8 all medical services were contracted as needed from
9 physicians in the vicinities of locations of the
10 company.

11 Q Okay. And among the - the occupational
12 health publications that came to either you or to
13 Cyanamid would have been the ---

14 A Wait a minute. To who?

15 Q To either you or to ---

16 A Celanese?

17 Q --- Celanese. Excuse me.

18 A Yes, sir.

19 Q Among the publications either you received
20 or Celanese received we would find the Industrial
21 Hygiene Quarterly from the ---

22 A Yes.

23 Q --- AIHA?

24 A And its successors or whatever.

25 Q And the - the periodicals from the

1 tax your mind to figure out - figure out what the
2 hell the subject is.

3 Q How far back approximately did the - this
4 collection of medical journals and hygiene journals
5 go at Celanese when you ---

6 A How far back?

7 Q --- got there? Yes, sir.

8 A I don't recall. I don't recall.

9 Q I mean did it look like several years'
10 worth or just ---

11 A I don't even know. I didn't - didn't
12 utilize that at all because I had my own collection
13 as part of my membership to the Society of
14 Toxicology, AIHA, Industrial Medical Association and
15 others. They came to my home, and I read them at
16 home by in large.

17 Q So, you had ---

18 A So, we had most of them in the library. I
19 could run in there and get them if I needed to.

20 Q Okay.

21 A In fact, we terminated some of those
22 subscriptions before too long, and I just brought my
23 in and let them be kept there instead of piling up
24 at home.

25 Q Perhaps you told me yesterday, but was

1 there a predecessor medical director to the - to
2 your predecessor at Celanese - Dr. Osterritter?

3 A Well, Dr. Cranch ---

4 Q Okay.

5 A --- had filled that role. Prior to that
6 time we had the one consulting dermatologist
7 involved who recommended we have that. Otherwise,
8 all medical services were contracted as needed from
9 physicians in the vicinities of locations of the
10 company.

11 Q Okay. And among the - the occupational
12 health publications that came to either you or to
13 Cyanamid would have been the ---

14 A Wait a minute. To who?

15 Q To either you or to ---

16 A Celanese?

17 Q --- Celanese. Excuse me.

18 A Yes, sir.

19 Q Among the publications either you received
20 or Celanese received we would find the Industrial
21 Hygiene Quarterly from the ---

22 A Yes.

23 Q --- AIHA?

24 A And its successors or whatever.

25 Q And the - the periodicals from the

1 homed on them where we needed the help in a medical
2 standard or the like. They were members of the
3 "LAPI - the labeling and precautionary committee
4 meetings. We always called them "LAPI." In fact,
5 there were as many industrial hygiene and
6 toxicological people as there were medical on
7 that ---

8 Q I would think ...

9 A --- maybe more, yeah.

10 Q At the API the hygienists were sort of
11 second-class citizens of the Medical Advisory
12 Committee. They ---

13 A Is that right?

14 Q --- were associate members and couldn't
15 vote. Only the doctors could vote.

16 A Yeah. We certainly had access to them as
17 we ---

18 Q Sure.

19 A --- might need them. But the committee
20 membership was made up entirely of -- The medical
21 committee was made up entirely of physicians. But
22 the "LAPI" committee had a mixed - a mixed bag:
23 toxicologists, physicians, maybe some other -
24 industrial hygienists and perhaps some others.

25 Q Yeah, that would seem appropriate.

1 A Huh?

2 Q That would seem appropriate.

3 A Yeah, I think it was.

4 Q How far back does your contact with the
5 labeling and precautionary information committee go?

6 A Right after I joined Celanese in '65. At
7 that time Boyd Shaffer was the chairman. And he was
8 my former boss in toxicology at the Stamford
9 research laboratory of American Cyanamid. He was
10 the corporate director of toxicology, and he invited
11 me to join. As a matter of fact, Glenn Fleming was
12 really very much responsible for me joining both of
13 those. He said, "Get your butt down there and
14 join." So ...

15 Q Dr. Boyd had - was with Cyanamid?

16 A Boyd Shaffer.

17 Q I'm sorry.

18 A Yeah. Yeah. He was a director -- He's on
19 your list of people ---

20 Q Yes, sir.

21 A --- in the New York office.

22 Q And the name of the committee is pretty
23 self-explanatory, but I - I take it the purpose or
24 the goal of that committee was to develop clear and
25 complete warnings and labels to go on chemical

1 products that would end up out in the marketplace?

2 A That is right. The principal function was
3 actually to develop language for use with the
4 varying types of requirements for labeling - safe
5 labeling; and then there were illustrative
6 examples -- They had a manual called the "LAPI"
7 manual - it became an industry standard pretty
8 much - that had all the language - it was 100 or 200
9 different statements of the kind of provisions for
10 this and that type of problem. It was trying to
11 make it standardized pretty much so that if you read
12 it on one label and read it on another, they would
13 say the same thing and people would get to know what
14 they meant because you know how wordings can -- Each
15 person has his own way of wording things, and they
16 might not mean the same to people.

17 Q Well ---

18 A And then they had illustrative examples of
19 a number of labels. It was a lesser number of
20 those. They were usually large volume
21 commodity-type chemicals and so forth - industrial
22 chemicals, yeah.

23 Q And ---

24 A And it was strictly for industrial
25 chemicals, too. It was not for consumer use.

1 Q That is ---

2 A Do you remember we discussed that
3 yesterday?

4 Q --- the latter?

5 A Huh?

6 Q The latter topic. I mean the "LAPI"
7 manual dealt with ---

8 A The chemical - industry use, not consumer
9 use. In other words, not for the householder. It
10 was for the chemical industry. We didn't label
11 chemicals for use in industry saying, "Do not
12 swallow" or "Do not take by mouth"; that was
13 implicit as part of an understanding of chemical
14 industry practices. And it didn't tell a lot of
15 things that a householder would need because these
16 were large volume chemicals and supplied from one
17 company to another and for use in making other
18 products by in large. And it was the intent of that
19 to cover just the industrial use hazards.

20 Q The intent of the labeling and the
21 precautionary information committee was just to
22 write labels and precautions for industrial use?

23 A Yes.

24 Q Was there a - a similar effort to deal
25 with the products that actually ended up in the

1 hands of - of end users?

2 A Well, I wasn't involved in that by in
3 large. And most people in the industry were not.
4 Now, if they had a consumer division, you know, they
5 might. But Proctor & Gamble did, for example,
6 because they marketed it directly to the
7 householders and so forth. But most of the chemical
8 companies did very little of that. And if they had
9 a product -- Well, I think Carbide had one of the
10 big antifreezes, for example.

11 Q Prestone.

12 A And that would be handled by something
13 other than by the "LAPI" practices.

14 Q I see. Well, are you thinking that was,
15 in fact, a CMA committee that - that focused on
16 labeling for consumer products?

17 A No, I don't believe there was because
18 that was not our thrust. The thrust was with
19 industrial chemicals ---

20 Q I see.

21 A --- period. Not - not consumer products.

22 Q Well, I'm glad you cleared that up.

23 A The companies that had consumer products
24 had to take that up some other way, and I don't
25 remember what was out there at that point.

1 Q Okay. So, if Celanese had some consumer
2 products that required warnings and precautionary
3 labeling, Celanese wrote those warnings ---

4 A I did.

5 Q --- themselves?

6 A Yeah. As a matter of fact ---

7 Q Sir?

8 A I did because I had responsibility for all
9 product safety. I had to approve every new product,
10 every new label, everything for the whole
11 corporation. It was a hell of a job.

12 Q That - that sounds very interesting and
13 very ---

14 A But there weren't that many products. It
15 still was a hell of a job. And we didn't have very
16 many products that had any toxicity that were - or
17 we had concern about because a lot of it -- Over 50
18 percent of the business was fibers - 60 percent
19 probably. We did have problems with some plastic
20 materials and some paints and coatings. On plastics
21 Charlie Hine and I ended up writing for the society
22 of the plastics industry a similar thing to the
23 "LAPI" manual. I don't know if that still exists
24 now or not.

25 Q I would like to amplify that point you

1 made, though, about your responsibilities for
2 reviewing products and labels before Celanese put
3 something out in the market. Was this -- Well, one,
4 why - why was this thought to be necessary?

5 A Well, it was health and toxicology -
6 health and toxicologically related primarily. Those
7 were the issues. And who but me was the one in the
8 company that had that knowledge and capability.

9 Q I guess I was going to the broader
10 question: Why did Celanese bother to worry about
11 the labeling and the instructions on the packages
12 dealing with health and toxicology issues?

13 A Well, we didn't, of course, on industrial
14 chemicals, except insofar as there was labeling of
15 major shipment loads and so forth - the ICC rules
16 and things of that sort. But if we had commodity
17 chemicals and they were infrequent - a few in number
18 I should say - we would have to look at it from a
19 different perspective, of course. The homeowner's
20 use of a product is totally different than the use
21 in a factory of bulk chemicals.

22 Q Okay. In the factory you have a routine
23 process and procedure?

24 A Yes. Yes.

25 Q You have employees that are trained for

1 handling ---

2 A Exactly.

3 Q --- that material? You have equipment to
4 safely handle the material?

5 A And the knowledge and so forth.

6 Q Engineering controls to prevent
7 exposures ---

8 A That is right.

9 Q --- and such?

10 A By in large, yeah.

11 Q And I guess it's like we were saying
12 yesterday with the pesticide issue, the - the more
13 difficult control and training in - and the safety
14 problem comes in field use by - or in the home use
15 by the ultimate consumer ---

16 A (Nodding affirmatively)

17 Q --- correct?

18 A Well, for those chemicals that were sold
19 for home use and so forth, yes.

20 Q But I guess the point I was trying to get
21 you to make and which you didn't and may not yet
22 make but - was - was Celanese concerned about the -
23 relaying health and toxicology information to the
24 consumers of its - of its products, not the
25 industrial purchasers, but ---

1 A Well, we even did that, too. Yes, it
2 would be. I can't recall right off the top of my
3 head what products were that way. For example, more
4 than 50 percent of the company's business was in
5 fibers. I will never forget the time the Kentucky
6 State Health Department got ahold of me to see what
7 was the hazard of polyester fiberfill, which was
8 pillow stuffing. I told them there was no hazard to
9 pillow stuffing.

10 Q Well, was it the policy at Celanese when
11 you arrived to inform customers of the - the
12 perceived and suspected health hazards that went
13 with the Celanese chemicals and products?

14 A Yes. I - I took a little license and
15 skipped over one element. We had what was called a
16 commercial hazards committee. There was a corporate
17 committee, and each of the operating committees --
18 Each of the operating companies had its - it's own
19 commercial hazards committee. And these were by
20 edict and with policies spelled out completely for
21 what the responsibilities were.

22 Every new product had to be submitted
23 through the operating company's commercial hazards
24 committee to the corporate committee with all of the
25 data necessary to help support what was being

1 proposed. And I signed off on the health elements
2 of it. And then the whole committee had to sign off
3 on the acceptability of it for meeting other and all
4 labeling requirements.

5 We had lawyers, members of the -
6 executives of the units, toxicologists when we had
7 our own toxicology department finally, medical
8 information specialists, hazard information
9 specialists and so forth. So, it was intended to be
10 as complete a review as you could make to provide
11 that we met the requirements and responsibilities
12 legally to adequately warn where it was necessary -
13 necessary.

14 Q Now, this committee didn't just focus
15 on - or didn't get involved after the product was in
16 production, did it? I mean this was a ---

17 A Well, it was done before it actually hit
18 the market by in large; but sometimes the variance -
19 the variance of a product, if it were minor,
20 wouldn't be taken up until after the fact if it was
21 thought that it wouldn't be materially different.
22 But by in large it was - it was something done prior
23 to its being put into the marketplace. And that
24 included industrial chemicals as well as - and it
25 was commercial - I mean consumer products.

1 Q Was there a counterpart to this kind
2 of ---

3 A Safety, too. I'm sorry.

4 Q Who was on ---

5 A I'm sorry. Safety was another - because
6 there would be things like flammability,
7 explosivity, other hazards that might have a safety
8 perspective. So ...

9 Q Did American Cyanamid have a similar
10 procedure?

11 A They did. I wasn't directly involved with
12 it, but Boyd Shaffer by in large headed that up.
13 Maybe Dr. Hamlin had the overall sign-off, but --
14 And I don't remember because I was not on corporate
15 staff. Don't forget that most of the time I was a
16 plant physician for the better part of the time -
17 plant or division.

18 Q Well ...

19 A We participated somewhat at times, but we
20 didn't have the responsibility or the administration
21 of it.

22 Q Dr. Dixon, when Celanese was considering
23 either using a new raw material or even considering
24 whether to make a new chemical product, did - was
25 there a similar review of the health and safety

1 aspects before deciding to produce it?

2 A Supposedly, yeah. And that had been going
3 on I might add for years before I got to the
4 company. Sometimes something would slip through,
5 but by in large it was prescribed to pretty fully.

6 Q And I suppose that inquiry - the
7 preproduction inquiry would - would be concerned not
8 only about the health hazards that the end product
9 might pose to customers but was also concerned about
10 the potential hazards to Celanese employees who
11 might be having to make the material?

12 A Well, that information would be handled
13 separately. The one for the product would be
14 through commercial hazards; the other one would be
15 through the medical/industrial hygiene line
16 organization for use in the protection of employees.
17 That would be totally separate.

18 Q But both ---

19 A It would be the same information
20 perhaps ---

21 Q Okay.

22 A --- but it would be handled - or similar
23 information, but it would be handled with respect to
24 its end objective, which in the one case was
25 employee protection and the other - our employee

1 protection; and the other was consumer, industrial
2 or household or whatever.

3 Q But in - in either event your input would
4 have been critical to the - to that review?

5 A It was one part of it, yes. And it was
6 critical I guess.

7 Q When did you get a toxicology department
8 or a toxicologist I guess at Celanese?

9 A In the early '70's - mid - I guess early
10 to mid-'70's, the first one. We had had all of our
11 toxicity work farmed out to consulting groups at
12 established laboratories by in large prior to that
13 time. They worked at our pleasure, or unless we
14 oversaw what they did; but they did it, and they
15 advised us and whatnot. I mentioned one of them was
16 Hazleton right ---

17 Q Yes, sir.

18 A --- out here, for example. There were
19 many others.

20 Q And do you recall who your early
21 toxicologists were at Celanese?

22 A The first one was John Clary. We
23 employed John from the Haskell laboratory of
24 du Pont. And then he employed at least two
25 additional toxicologists before I left. And we went

1 through a repeat deliberation as we had gone through
2 two or three times earlier about whether we should
3 have our own toxicology laboratory or continue to
4 use outside consultants. And a decision was made
5 perhaps wisely to continue farming it out.

6 Q But did Celanese continue to have a
7 toxicologist on staff after ---

8 A Oh, yes, and they still do. I've had
9 acquaintance with some of them recently.

10 Q I mean after the decision was made to
11 continue farming out the laboratory work, you still
12 had a toxicologist on the ---

13 A Oh, yes. Yes.

14 Q --- on the payroll? And I suppose
15 Mr. Clary or Dr. Clary ---

16 A Doctor, yeah.

17 Q --- was working out of the central
18 research facility?

19 A No. He worked out of the corporate
20 headquarters. He worked in the medical department
21 in New York.

22 Q Do you ---

23 A That was a medical health function, not a
24 research function in that sense, yeah.

25 Q Is Dr. Clary still living?

- 1 A Yes.
- 2 Q Is he younger than you do you think?
- 3 A Yes.
- 4 Q I was just curious about how long ---
- 5 A Anybody is younger than me, but go ahead.
- 6 Q Not really. Chuck Laubly is not. Do you
- 7 know approximately how long Dr. Clary had been at
- 8 Haskell laboratories at du Pont before joining
- 9 Celanese?
- 10 A Somewhere between five and ten years.
- 11 Probably nearer five. I'm hazarding a guess. He
- 12 had been at one of the governmental agencies prior
- 13 to that, and I can't recall. I knew him before he
- 14 went to Haskell, but I can't remember where he was.
- 15 Q Okay. Well, that's another thing I can
- 16 check off.
- 17 A Haskell is the corporate toxicology
- 18 laboratory of du Pont.
- 19 Q Yes, sir.
- 20 A Yeah.
- 21 Q Down in Wilmington, Delaware, area I
- 22 think?
- 23 A Newark, yeah.
- 24 Q Okay.
- 25 A Newark, Delaware. It's not Newark,

1 "New'ark."

2 Q "New'ark." Actually we got to visit their
3 library once upon a time.

4 A Huh?

5 Q Herschel and I got to visit their library
6 once upon a time ---

7 A Yeah.

8 Q --- some years ago. It's a pretty good
9 size library. I wanted to finish dealing with these
10 organizations, and I'm fearful that you have already
11 told me about one other. The Industrial Hygiene
12 Foundation we talked about a little bit yesterday.

13 A Yeah. We talked about that pretty well.

14 Q We did. And I don't remember if you told
15 me that Celanese was a member of that organization.

16 A Yes, and I was on the board and all that.

17 Q Okay.

18 A And de Treville ---

19 Q Yes, sir, I remember that part. And do
20 you recollect that Cyanamid - American Cyanamid had
21 also been a member?

22 A I presume so. I don't recall who the
23 specific members were. It was pretty widely
24 subscribed to. But I didn't have a corporate
25 stature in the days in Cyanamid - in Cyanamid.

1 Q Right.

2 A So, I didn't represent the company at any
3 of those functions.

4 Q You wouldn't have been ---

5 A Except on a rare circumstance.

6 Q --- back in those earlier years?

7 A Yeah.

8 Q Okay. And then the National Safety
9 Council we - we know was an important safety and
10 health information source in the decades gone by.

11 A Yes.

12 Q Would your job have you attending meetings
13 of the National Safety Council?

14 A Glenn Fleming wouldn't let me not go to
15 one of their meetings.

16 Q Okay.

17 A I don't recall any specific roles that I
18 had with them as such, like a committee or whatnot;
19 but I was involved with them, but ...

20 Q The -- I suppose there were local meetings
21 of the NSC sections or divisions?

22 A I don't know.

23 Q You would have attended the annual
24 National ---

25 A The ones in Chicago, the big meetings.

1 Q --- the Safety Congress?

2 A I might have attended some meeting when
3 they - if they had a special topic or something but
4 not otherwise.

5 Q You mean you wouldn't have attended a
6 local ---

7 A Local, yeah.

8 Q --- type meeting?

9 A In fact, I don't even recall whether there
10 was a local or not.

11 Q Well, I ---

12 A There may have been.

13 Q --- I'm not sure.

14 A Yeah. I'm not either.

15 Q So, you and Glenn Fleming would then go
16 annually to the annual or National Safety Congress
17 they called it?

18 A And he, of course, went to much more than
19 I would. Sometimes he would accompany me to some of
20 the health and industrial hygiene meetings, too.
21 There was a very close -- Because he was very active
22 in it, and his organization had a very responsible
23 role as we talked about yesterday and - prior to our
24 developing our own program.

25 Q Well, this cross-pollination, so to speak,

1 between the - with the doctor and the safety man and
2 the hygienist are again a very important part of a
3 good program, aren't they?

4 A Yes, they were, extremely.

5 Q I mean you are kind of depending on those
6 other professionals to be your eyes and ears out in
7 the plants?

8 A It was very symbiotic, very important and
9 necessary that it be close.

10 Q And I suppose likewise the hygienist or
11 the safety man would be ---

12 A The same thing.

13 Q --- depending on you for ---

14 A And many of the ...

15 Q --- information.

16 A ... gentlemen were Certified Safety
17 Professionals so that they had dual interests.
18 Chuck was a CSP, for example.

19 Q Okay.

20 THE VIDEOGRAPHER: Joe, can we
21 go off the record to change the tape?

22 MR. BLANKS: Well, please do.

23 THE VIDEOGRAPHER: Off the
24 record at 11:48.

25

1 (AT 11:48 A.M. THE DEPOSITION
2 WAS RECESSED FOR LUNCH. AT 1:02 P.M.
3 THE PROCEEDINGS RESUMED AS FOLLOWS:)

4
5 THE VIDEOGRAPHER: We are back
6 on the record at 1:02.

7
8 (By Mr. Blanks)

9 Q Doctor, did your - during your
10 professional career did you ever have any contact
11 with the Saranac Lake laboratories and the Trudeau
12 Institute?

13 A Not directly, no.

14 Q Were you aware of ---

15 A I was aware of it, but -- Yes, I was aware
16 of it.

17 Q And aware that even back into the '30's
18 and '40's that it had done a good bit of research in
19 the silicosis area?

20 A I was aware of that, yes.

21 Q And, of course, there was a tuberculosis
22 sanatorium there ---

23 A Yes.

24 Q --- as well. But you never attended any
25 symposia there?

1 A No. I grew up many years in Albany, and
2 we visited Saranac Lake; and I had seen the facility
3 in earlier years. But I never did have any
4 professional visits there. I was aware of some of
5 the people and things like that later.

6 Q Anybody from up there that you recall
7 knowing?

8 A Well, Art Vorwald for one. Frank Princi
9 was another. And, of course, we all know about
10 Schepers.

11 Q Yes, sir. I think he was the last
12 director of the laboratories.

13 A I presume that's correct.

14 Q He followed Dr. Vorwald?

15 A Yes.

16 Q Do you know where Dr. Vorwald went after
17 he retired ---

18 A Yes.

19 Q --- from Saranac?

20 A He -- Well, I don't know whether he
21 retired, but he left there and went to Wayne State
22 University as a professor of preventive and
23 occupational medicine. I don't -- I'm sure he's
24 retired. He may not be alive even now.

25 Q I think he's been deceased for a number of

1 years now.

2 A Yeah, I think so, too; but I just can't
3 recall.

4 Q And what was Frank Princi?

5 A Huh?

6 Q What was Frank Princi?

7 A Well, Frank Princi was the No. 2 man at
8 the Kettering laboratory. And he had spent a stint
9 up there at some point prior to joining the
10 Kettering faculty as I recall. I don't think I'm in
11 error about that. He knew the people up there. He
12 knew -- He had known Gardner, and he had known, of
13 course, Art Vorwald. I met Vorwald like I met so
14 many of the early leaders at Kettering when they
15 would come down and give seminars and so forth. You
16 know, there probably were a few other people; but I
17 can't - I can't think of their names at the moment.

18 Q Okay. Had you ever met Dr. Schepers
19 anywhere along the way?

20 A I think I met him one time back in the
21 early '70's. I have a recollection that I did, but
22 I wouldn't know him if I saw him. He lives just a
23 few blocks from where I am as a matter of fact. I
24 know where his house is in Langley. He lives around
25 the corner.

1 Q Actually he had come over and worked a bit
2 with Dr. Lanza when - when Schepers - Dr. Schepers
3 was finishing his - I guess a dissertation as part
4 of his graduate studies.

5 A Schepers did?

6 Q Yes, sir.

7 A I guess I wasn't aware of that, yeah.

8 Q And I want to tell you that ---

9 A And he went to du Pont at some point. I
10 don't know whether it was before or after.

11 Q It was after. I think he -- If I remember
12 correctly he was a student of Dr. Lanza maybe in the
13 early postwar years - late '40's maybe and ---

14 A A student?

15 Q Sir?

16 A A student of Lanza?

17 Q Well ...

18 A Because Lanza was in the Public Health
19 Service and then he went to Metropolitan and then he
20 got into academics after he retired from
21 Metropolitan as I recall.

22 Q Let me -- Then let me take that back. I
23 know that he conferred with Dr. Lanza and had some
24 guidance on his dissertation and that project.

25 A Oh.

1 Q And I think if I remember ---

2 A Yeah. I don't know where he - what
3 training he had. I guess he's a Ph.D.

4 Q He's an M.D. and I think a DSC like
5 yourself.

6 A Yeah. Okay.

7 Q I believe. Lanza had sent him around to
8 various industries to ---

9 A Yeah.

10 Q --- learn about the programs here;
11 just ---

12 A Something like we did here.

13 Q Uh-huh.

14 A Well, was that in the period after Lanza
15 left Metropolitan?

16 Q You know, I confess; I am not clear in my
17 mind when Dr. Lanza left Metropolitan.

18 A I had trouble thinking about that the
19 other day. You know, I mentioned something about
20 that earlier. And I was trying to reconstruct
21 something in my mind. And I think that he left
22 Metropolitan in '49 or '50 - '49 or '50. It was
23 right along in that period, and then he established
24 the New York University program in industrial
25 medicine and so forth because I applied there.

- 1 Q Okay.
- 2 A Yeah. In '53 getting ready for the '54
- 3 entry.
- 4 Q That sounds right ---
- 5 A Okay.
- 6 Q --- to me, too. In the '50's it was the
- 7 case, wasn't it, that doctors and hygienists at the
- 8 NYU school were available as consultants for hire to
- 9 industry; or were you aware of that?
- 10 A I presume some of them were, yeah. Most
- 11 of the schools did that, yeah.
- 12 Q And I think the - Kettering we
- 13 discussed ---
- 14 A Yes.
- 15 Q --- did consulting work for industry?
- 16 A Yes.
- 17 Q And at some point the Saranac Lake
- 18 laboratories also provided these kind of services;
- 19 correct?
- 20 A I - I -- That's my understanding, yes.
- 21 And I don't know how they were sponsored or
- 22 whatever, but I know they did -- Industry was
- 23 involved some with their work, so - probably
- 24 supporting it and so forth.
- 25 Q And I believe the Industrial Hygiene

1 Foundation also provided such consulting services
2 for a fee.

3 A At varying times. Not all periods, but at
4 varying times.

5 Q And I guess the point of that was that
6 even for companies smaller than a Celanese or a
7 Cyanamid or a du Pont, there were at least
8 professionals available with training like you had
9 and like Chuck Laubly had ---

10 A Yeah.

11 Q --- to - for consultation to deal ---

12 A Although ...

13 Q --- with problems?

14 A ... the field wasn't developed with the
15 numbers of people, and it wasn't a widely known
16 thing to the degree that it became later; but still
17 I think it did exist. Well, I know it existed, yes.

18 Q You mentioned this morning before we began
19 that you found the old copy of Industrial Dust ---

20 A Yes.

21 Q --- that you have in your library.

22 A Yes.

23 Q Drinker - The Drinker and Hatch book.

24 A Drinker and Hatch book written in '36.

25 Q Was ---

1 A I opened the thing up and the first thing
2 I saw was a bookplate - A. G. Cranch. His daughter
3 gave me his books when he died. So ...

4 Q Would that text have - or reference book
5 still have been in use when you went through medical
6 school and ---

7 A Medical school?

8 Q Yes, sir.

9 A Well, I wasn't aware of it.

10 Q How about when you were studying at
11 Kettering, when you ---

12 A I wasn't aware of it I don't think at that
13 time. As a matter of fact, when I opened it and
14 looked at it just briefly in the middle of the night
15 when I was wandering around because I couldn't
16 sleep, I was astounded at finding the Cranch
17 bookplate. And in the back was some little
18 publication - it didn't relate to things we are
19 concerned with here - but dated 1920. And it was an
20 order sheet for something - a bulletin of some sort.
21 And I don't think I had ever opened that book.

22 Q Okay.

23 A Because it was old by the time I got it.
24 I got it in '65 or '66. Yeah, in the - in the - a
25 month or two after I joined Celanese; right after

1 Dr. Cranch died.

2 Q It would be true, though, wouldn't it,
3 that dust was recognized as a hazard in industry in
4 the - at least a decade before you went to medical
5 school?

6 A Wait a minute. Say it all over again.
7 I'm sorry.

8 Q I said it would be true, wouldn't it, that
9 dust was recognized as a potential health hazard in
10 industry even before you went to medical school?

11 A Before I went to med school?

12 Q Oh, yes. As evidenced by this 1936 book.

13 A There were some dusts that were.

14 Q Yes, sir.

15 A Many dusts that aren't, yeah.

16 Q Okay.

17 A I mean dust categorically wasn't
18 necessarily considered significantly harmful, except
19 as a nuisance. But there were specific dusts that
20 were pathognomonic of various ---

21 Q They were what?

22 A Pathognomonic.

23 Q Okay.

24 A In other words, that means they are able
25 to produce abnormal results and so forth.

1 Q And among those obviously were the silica
2 dusts - free silica dusts?

3 A Yes, that was one of the chief ones.

4 Q And asbestos as well was recognized as a
5 dust hazard even in ---

6 A When?

7 Q Well, certainly in the - in the 1930's,
8 again as reflected in the publication of that era.

9 A By people who were involved in that area
10 of concern. I don't think generally this was
11 understood. I don't think physicians generally knew
12 it. Even the whole time I was at Kettering we
13 referred to it primarily as a nuisance dust; that if
14 it were - otherwise if exposure is higher than what
15 were encountered in this country - were encountered,
16 it might produce what was then being called
17 asbestosis. But we didn't expect to see it and in
18 large measure did not in those days.

19 Q I suppose the best indicator of what was -
20 was knowable to doctors and industrial hygienists in
21 those years before you began your studies would be
22 the publications in the field, the literature - the
23 medical literature and the industrial hygiene and
24 toxicology literature in ---

25 A In what period?

1 Q Well, in - certainly in the decade before
2 you started your medical school studies.

3 A What? I'm having a little trouble with
4 the question.

5 Q Okay.

6 A I'm sorry. I got that part of it, but
7 then I lost the front part.

8 Q Let's start over.

9 A My fault.

10 Q Looking back to these years before you
11 went to medical school, one way of seeing what -
12 what the concerns and the information was for
13 doctors and hygienists and toxicologists would be
14 the published medical literature of whatever era you
15 are looking at; correct?

16 A You mean would that be the source of
17 information about it?

18 Q Yes, sir.

19 A Well, I presume so. There wasn't much, of
20 course. I glanced in the Drinker/Hatch book last
21 night just to see what - if it covered asbestosis;
22 and it did in a few little sentences here and
23 there. And it did allude to the fact that there
24 could be asbestos, but - asbestosis, but that it
25 wasn't seen really much in this country. And - but

1 it gave a pretty short description. And it didn't
2 relate to any other problem than the possibility of
3 asbestosis.

4 Q Okay. And ---

5 A That was in '36.

6 Q Okay. And by then Dr. Lanza and others
7 had done at least ---

8 A Excuse me. I was -- Let me add one other
9 thing. I should say that even through the whole
10 period that I was at Kettering through 1957 - and I
11 have gone back and - earlier, not in connection with
12 this case - but verified by talking to some of my
13 classmates and others who were there at that time
14 that asbestos was essentially not mentioned. The
15 big concern was silicosis and silicotuberculosis and
16 some other types of problems that were very much
17 around. And coal dust was the big issue that we
18 were concerned with at that point during the
19 mid-'50's. And that was a - quite a -- It was a
20 very - kind of a quagmire getting through all of
21 that. And asbestos just never emerged as something
22 we even talked about. I don't ever recall it being
23 mentioned there as something specific; so - through
24 '57.

25 Q Mentioned where, sir?

1 A Huh?

2 Q You said you didn't recall it being
3 mentioned there. And I was wondering where you ---

4 A At Kettering. I'm talking about -- The
5 whole thing I was talking about was Kettering, yeah,
6 while I was there in the training program. I'm
7 sorry. I'm having a little trouble pulling that
8 together.

9 Q Okay. And I guess a lot of the focus at
10 Kettering would necessarily have been on new
11 materials and chemicals that had come out of the -
12 the wartime industry and the - the decade and ---

13 A Well, from a research standpoint.

14 Q Yes, sir.

15 A But from a teaching standpoint we had to
16 go through all of the traditional things that were
17 known to exist pretty much, but the research program
18 would have been more related to new or on things
19 where we needed further information.

20 Q Okay. When you arrived at the Celanese
21 headquarters to take up your new job there in
22 association with Dr. A. G. Cranch in 1965, what did
23 you find by way of a library or a reference
24 collection that - for the medical department -
25 medical director?

1 A It was a fairly good library. We had --
2 We had subscriptions to all the major regular
3 publications in the field of occupational health,
4 general medicine; a fair representation of
5 textbooks. As I said, Dr. Cranch had his own
6 library there - not all of it, but it was there.
7 And Dr. Osterritter had some additional stuff. But
8 it was reasonably adequate.

9 Q And I would assume Dr. Cranch's books
10 dealt largely with occupational medicine topics?

11 A All the books of his to my recollection
12 were occupationally oriented.

13 Q And didn't he have a toxicology background
14 as well?

15 A Yes, from Carbide as you recall. And he
16 had been one of the authors in the Patty textbook,
17 as had Dr. Hamlin at Cyanamid.

18 Q And as you mentioned, Dr. Cranch's
19 widow ---

20 A His daughter, yeah.

21 Q I'm sorry. --- his daughter basically
22 bequeathed ---

23 A Yes.

24 Q --- these books to you when he passed
25 away?

1 A Or I guess maybe when he was sick or at
2 some point. I was away. He got sick, and in four
3 days he was dead. And I never saw him after he
4 became ill. So ...

5 Q Well, that's a pity.

6 A Yeah.

7 Q Dr. Cranch was an M.D.?

8 A Oh, yes. Yes. He was a medical director
9 for Carbide.

10 Q Formally the medical director at Union
11 Carbide ---

12 A Yes.

13 Q --- before he became or immediately before
14 he became the consulting medical director for
15 Celanese Corporation?

16 A That's correct.

17 Q We - you mentioned medical journals or -
18 excuse me - you mentioned journals that you received
19 at Celanese and which you found in the library
20 there - the medical library.

21 A Yes.

22 Q These would have included such journals as
23 the Journal of the American Medical Association?

24 A Yes. Although -- Well, go ahead. Yes.

25 Q Would Lancet have been among those

1 journals?

2 A I don't believe so. At some point at a
3 later time I did get Lancet at varying times, but
4 not even on a regular basis later.

5 Q Okay. So, that's not ---

6 A We could have access to it at one of the
7 med schools if something appeared in it that was
8 meritorious.

9 Q How would you learn of articles appearing
10 in publications that you didn't subscribe to?

11 A Well, there was a service in the New York
12 area. I first encountered it when I was at Stamford
13 research headquarters of American Cyanamid company
14 in which index pages of journals were photocopied
15 and circulated to subscribers to - in this service.
16 And I got quite a compendium of those. They were
17 inexpensive, and you could look through them very
18 quickly to see if there was anything that you wanted
19 to look through. I don't recall the -- I'm sure
20 Lancet was one of them in that listing.

21 Q But ---

22 A That was British.

23 Q Yes, sir.

24 A But not too many foreign ones. I think
25 most of them were domestic.

1 there a predecessor medical director to the - to
2 your predecessor at Celanese - Dr. Osteritter?

3 A Well, Dr. Cranch ---

4 Q Okay.

5 A --- had filled that role. Prior to that
6 time we had the one consulting dermatologist
7 involved who recommended we have that. Otherwise,
8 all medical services were contracted as needed from
9 physicians in the vicinities of locations of the
10 company.

11 Q Okay. And among the - the occupational
12 health publications that came to either you or to
13 Cyanamid would have been the ---

14 A Wait a minute. To who?

15 Q To either you or to ---

16 A Celanese?

17 Q --- Celanese. Excuse me.

18 A Yes, sir.

19 Q Among the publications either you received
20 or Celanese received we would find the Industrial
21 Hygiene Quarterly from the ---

22 A Yes.

23 Q --- AIHA?

24 A And its successors or whatever.

25 Q And the - the periodicals from the

1 tax your mind to figure out - figure out what the
2 hell the subject is.

3 Q How far back approximately did the - this
4 collection of medical journals and hygiene journals
5 go at Celanese when you ---

6 A How far back?

7 Q --- got there? Yes, sir.

8 A I don't recall. I don't recall.

9 Q I mean did it look like several years'
10 worth or just ---

11 A I don't even know. I didn't - didn't
12 utilize that at all because I had my own collection
13 as part of my membership to the Society of
14 Toxicology, AIHA, Industrial Medical Association and
15 others. They came to my home, and I read them at
16 home by in large.

17 Q So, you had ---

18 A So, we had most of them in the library. I
19 could run in there and get them if I needed to.

20 Q Okay.

21 A In fact, we terminated some of those
22 subscriptions before too long, and I just brought my
23 in and let them be kept there instead of piling up
24 at home.

25 Q Perhaps you told me yesterday, but was

1 there a predecessor medical director to the - to
2 your predecessor at Celanese - Dr. Osterritter?

3 A Well, Dr. Cranch ---

4 Q Okay.

5 A --- had filled that role. Prior to that
6 time we had the one consulting dermatologist
7 involved who recommended we have that. Otherwise,
8 all medical services were contracted as needed from
9 physicians in the vicinities of locations of the
10 company.

11 Q Okay. And among the - the occupational
12 health publications that came to either you or to
13 Cyanamid would have been the ---

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17 Q --- Celanese. Excuse me.

18 A Yes, sir.

19 Q Among the publications either you received
20 or Celanese received we would find the Industrial
21 Hygiene Quarterly from the ---

22 A Yes.

23 Q --- AIHA?

24 A And its successors or whatever.

25 Q And the - the periodicals from the

1 Industrial Hygiene Foundation?

2 A I presume we did. I'm almost -- Oh, I'm
3 sure we did, yes. And, of course, when I was active
4 with them, I know we did, too.

5 Q The Public Health Reports from the U. S.
6 Public Health Service?

7 A Yes. They deteriorated badly in
8 subsequent years, but I had been used to that from
9 the days in the Public Health Service before I went
10 to Kettering. In fact, one of my publications was
11 in the Public Health Reports.

12 Q Do you recollect seeing any of the
13 bulletins from the New York Department of Labor that
14 we discussed ---

15 A Well, we talked about that yesterday. And
16 I presume that there was some awareness of that. I
17 don't recall anything very specific about it. I
18 know Morris Kleinfeld and so forth.

19 Q Do you recall, Doctor, if the State of New
20 Jersey had a Department of Health or a Department of
21 Labor that - that had some specialists in
22 occupational health or industrial hygiene?

23 A In New Jersey?

24 Q Yes, sir.

25 A Do I recall it?

1 Q Yes, sir.

2 A Well, I know they had a department. I
3 don't recall physicians in it. I remember the
4 industrial hygienists like Lynn Schall.

5 Q Schall?

6 A S-h -- S-c-h-a-l-l. I don't recall who
7 the medical director of it was even though I lived
8 in New Jersey. I dealt with the industrial
9 hygienists quite often when I was with Cyanamid.

10 Q I was wondering. How were you dealing
11 with him?

12 A Well, they -- In - in some of their
13 activities they used the Bound Brook plant of the
14 company as a training site. We let them do that.
15 And a place to show people -- It had some marvelous
16 things in it including the best environmental waste
17 control system known to man at that point. It was
18 just finished.

19 Also on at least one occasion Lynn
20 Schall - who was head of industrial hygiene for the
21 state, and his sidekick whose name escapes me right
22 now - came into our plant and did some measurements
23 or assessments of one thing that -- And I can't
24 remember what it was even now. But they wanted us
25 to change some stuff. And I went back home and

1 calculated it all out and found they had made a
2 massive error, got them back in and convinced them.
3 And we didn't have to do anything on it.

4 But Lynn Schall and I became very good
5 friends then. He was quite active in the local AIHA
6 and the national AIHA. In fact, he was the - acted
7 as general manager of the AIHA in the interim as
8 they were moving before Bill McCormick took over.

9 Q Do you recollect there being any New
10 Jersey regulations that pertained to, you know,
11 workplace contaminants and guidelines for exposure
12 levels and such as that?

13 A New Jersey? At this point I can't
14 recall. You know, there could well have been.

15 Q Do you remember becoming aware of such
16 regulations in any of the other states where
17 Celanese had plants?

18 A State regulations you mean like ---

19 Q Yes, sir.

20 A --- TLV's or ---

21 Q Well, the equivalent.

22 A Well, the only state through that period
23 and even a considerably later time that had anything
24 of that sort was Pennsylvania that adopted the
25 A.C.G.I.H., much to the chagrin of the - the

1 A.C.G.I.H. The doctor there was -- Good, Lord. Oh,
2 hell. I can't think of his name. I will think of
3 it in a second.

4 Q Fulton?

5 A He had worked for us in Cyanamid earlier
6 as a plant physician in one of the plants in
7 Pennsylvania. And then he became the head of the --
8 Good, Lord. I saw his name the other day. I just
9 can't think of it. It doesn't matter. But he was
10 the one who broke the cycle and the first one to
11 statutorily arrange for the adoption of the
12 A.C.G.I.H. list as a regulatory level. Ultimately
13 OSHA adopted the '68 A.C.G.I.H. levels for their
14 first PEL's or whatever they called them at that
15 point. Originally they were MAC's - maximum
16 allowable concentration and then threshold limit
17 values and finally I guess PEL's.

18 Q Do you -- Are you thinking perhaps of a
19 Dr. William Fulton from Pennsylvania?

20 A William who?

21 Q William B. Fulton, M.D.

22 A I don't recognize the name. Where was
23 he ---

24 Q He was the chief of industrial hygiene in
25 the Department of Labor and Industry ---

1 A Where?

2 Q --- in Pennsylvania back in the late
3 '30's. I don't know what ---

4 A Well, that's way, way back. No, I
5 wouldn't have any knowledge of him.

6 Q Well, he might still have been there.
7 That was all I was thinking.

8 A The name of that guy - it's on the tip of
9 my tongue. It doesn't matter. No, I wasn't aware
10 of that.

11 Q Anyway, Celanese didn't have any plants up
12 in Pennsylvania, did it?

13 A Yes, we did. Oh, not Celanese. No, I'm
14 sorry.

15 Q Cyanamid did?

16 A Cyanamid did, yeah. I don't recall any
17 plants of Celanese in Pennsylvania. Oh, I take it
18 back. We had a small one out near Pittsburgh, a
19 plastics plant. It was one we had acquired in some
20 deal. We didn't have it very long.

21 Q That would have been acquired after you
22 arrived?

23 A Yes. Yes. It wasn't operated very long.
24 But that's the only one I can recall in
25 Pennsylvania.

1 Q If I remember correctly I think you told
2 us Celanese had some plants down in the Carolinas.

3 A Celanese?

4 Q Yes, sir.

5 A Yes. All of the fibers plants were in -
6 well, in Virginia, Carolina, Georgia. Actually
7 there were two in Carolina. The - and the
8 headquarters of the fibers operation was in
9 Charlotte. But the two -- But the plants were the
10 Amcel plant in Maryland. That's the first plant.
11 I'm getting this all mixed up. The Celco plant in
12 Narrows, Virginia. The Celriver plant in South
13 Carolina and the Rome, Georgia, plant up in Rome,
14 Georgia. Celanese had built and established all of
15 the plants except for Rome, Georgia. That had been
16 purchased. It was a former Viscose plant, and it
17 was converted to acetate - cellulose acetate.

18 Q Did you ever come to be aware of the dusty
19 trades laws in the Carolinas?

20 A In the Carolinas?

21 Q Well, I'm - I'm thinking it - it might
22 have been in both, but I believe certainly in South
23 Carolina.

24 A I don't recall it as such.

25 Q I think Mr. Laubly had mentioned that it

1 was some sort of a registry for workers in what they
2 called the dusty trades and required a state card
3 really with ---

4 A I don't recall it, no.

5 Q --- periodic chest examinations ---

6 A Yeah.

7 Q --- and so on.

8 A I guess we wouldn't have thought that
9 applied to us.

10 Q What were the -- What was the - or what
11 were the end uses for these fibers that Celanese
12 manufactured over the years?

13 A Well, primarily in apparel, in carpeting
14 and drapes. All cloth products.

15 Q And to your knowledge did any of those
16 Celanese fibers ever contain asbestos, something
17 woven in with them?

18 A Oh, no. Because they were extruded fine
19 filaments from a hot mix. We couldn't put anything
20 in them. They came through a very precision,
21 finally-honed, small aperture that if you put
22 anything in it, you would have fouled up the works
23 in a hurry.

24 Q Celanese ---

25 A It had to be superfiltered to keep

1 anything from ever being in it in the way of a
2 foreign particle.

3 Q I was just thinking perhaps of fibers
4 being spun in with the fiber - the ---

5 A Not the -- Not with the acetates or the
6 fibers company ---

7 Q Okay.

8 A --- nor in the ICI/Celanese synthetic
9 fiber operations.

10 Q And where was that plant - the
11 ICI/Celanese ---

12 A The what?

13 Q Where was the ICI/Celanese plant?

14 A Well, we ended up with four plants at one
15 point mostly in the Carolinas. One in Salisbury.
16 One in Shelby, North Carolina. One in - well, near
17 Charleston. I can't think of the town. I'm missing
18 one, and I can't think of where it was. They are
19 all in that Carolina, Georgia ---

20 Q And what time period was this ---

21 A Well, it started about the time I joined
22 Celanese. Maybe just before I joined, and then it
23 expanded. They had the development of their second,
24 third and fourth plants. They were huge. They made
25 either nylon and - or polyester for largely apparel

1 use, although there was a tremendous expansion in
2 polyester to provide tire cord.

3 Q In the pre-steel belt days?

4 A Yeah.

5 Q Okay. Do you recall or recognize the name
6 of a Lewis R. Morrison?

7 A Lewis R. Morrison?

8 Q Yes, sir.

9 A It doesn't ring a bell.

10 Q Okay. I think I picked that up from
11 Mr. Laubly's deposition. And I just thought I would
12 ask you about it. How about Charles Francis?

13 A Charles Francis?

14 Q Yes, sir.

15 A Well, Charlie Francis was a Vice-president
16 of personnel at Celanese Corporation throughout my
17 time of being there - and Chuck's, too.

18 Q And that reminds me. I was wondering to
19 whom you reported as medical director of Celanese -
20 or to what office and to what person?

21 A Well, it's ironic you would ask that at
22 this moment because my original boss was Charlie
23 Francis - Charles B. Francis. But I reported to 11
24 different people during my time there - from
25 Executive Vice-president to the Personnel Director,

1 and all levels in between. There was a lot of
2 motion and mobility and changes in the corporation
3 during that time.

4 Q I was just trying to get a sense of where
5 the medical department fit into the organizational
6 hierarchy. You really were sort of ---

7 A The medical director was in the executive
8 category, of course, in terms of salary level and
9 perks and that sort of thing; but on the low
10 side ...

11 Q To - to which department or office would -
12 would you have to submit your budget proposals and
13 your ---

14 A To each or any of those 11 people,
15 according to who was in charge at a given time - the
16 Personnel Director all the way up to Executive
17 Vice-president.

18 Q How long a time were you under the
19 Personnel Director?

20 A I'm sorry. What?

21 Q How long were you under the Personnel
22 Director?

23 A I - I would guess that I was under him
24 longer than anybody else. Probably four or five
25 years. And then there were a series of changes with

1 Human -- What's the word?

2 Q Human Resources.

3 A Yeah, Human Resource-type things and
4 other -- And somebody would leave, and you would get
5 moved to somebody else. And I knew all of them
6 pretty well. And Jim Kennedy was Executive
7 Vice-president who I had interviewed with when I was
8 hired. I reported to him for a time - and then
9 another Executive Vice-president. Now, he -- Jim
10 was actually Vice-chairman of the Board. He had
11 been kicked upstairs.

12 Q Jim - Jim who?

13 A Kennedy. You have his name earlier. He
14 was the - the official that I saw initially and had
15 my first dealings with in the corporation.

16 Q Was there any year when your budget
17 requests were not approved ultimately? In other
18 words ...

19 A Well, except -- The answer would be
20 basically, no, except when we had proposed some of
21 the developments that we had planned to do; and then
22 an economic downturn or some other circumstance came
23 along and we had to cancel the project. But other
24 than that, the basic -- I don't recall that we ever
25 had a rejection of our fundamental basis -

1 fundamental budget, no.

2 Q Which - which of the projects were not
3 approved that you remember?

4 A Well, trying to go ahead and expand the
5 occupational health program. I told you there were
6 several times when we had almost gotten general
7 consensus ---

8 Q Uh-huh.

9 A --- to do so, but then it was not
10 expedient to proceed at that moment because of
11 economic or other considerations that made it bad
12 timing. It was just deferred really. It got
13 deferred two or three times until we finally got
14 approval in the '70's.

15 Q Do you recall Dave Barrett?

16 A Very well.

17 Q And what was Mr. Barrett's job?

18 A Dave was the head industrial hygienist in
19 the Celanese Chemical Company. And he was the real
20 mover on pushing and getting approval for the
21 occupational health surveillance program in the
22 chemical company. I was the nominal head of it
23 afterwards, but he was the real instigator and
24 pusher. And he was amazing how he succeeded when I
25 failed repeatedly. It was a good time, too. It was

1 during a period of good economics. And OSHA was
2 coming down the road; and, so, it was timely. And -
3 but he was a wonderfully great guy.

4 Q Did you have a role in - in the decision
5 to add his position and to - to hire him?

6 A Only in that I did approve and recommend -
7 and it had to be approved that we did hire the
8 industrial hygiene staff for the chemical company.
9 We hired David - Dave Barrett as the head of it and
10 then four additional industrial hygienists early on
11 after that - one for each of the chemical plants. I
12 don't believe we had one at the tech center full
13 time. Probably at the other facilities, but I could
14 be wrong about that. But at least there were four
15 others. And then it followed with the nurses and
16 the doctors and ...

17 Q When - when was it, Dr. Dixon, that you -
18 since you first recommended that a hygienist be
19 hired for the chemical division at Celanese?

20 A Well, it was probably pretty early on when
21 we were trying to set up the health surveillance
22 schemes. One industrial hygienist was nowhere like
23 enough for a whole corporation of that size. And I
24 am sure we recommended getting an industrial
25 hygienist for each of the major divisional

1 companies - or at least more than one corporate one.
2 There could be some sharing of duties.

3 But I guess originally we envisioned
4 hiring some additional members on the corporate
5 staff and then supplying that service out to the
6 plants and the divisions. But that becomes unwieldy
7 and difficult to operate conveniently and
8 economically. And, so, if you can get them to be in
9 the division and residing at their sites, it's far
10 superior to the other way.

11 Q Well, you managed to obtain approval for
12 hiring Mr. Laubly as the first industrial hygienist
13 for the corporation ---

14 A Yes.

15 Q --- by '66 or ---

16 A Yes, early '66.

17 Q And I think Mr. Laubly made surveys of all
18 the plants in the Celanese organization as rapidly
19 as he could.

20 A Yes. In fact, we both participated in it
21 to the greatest extent jointly in the early days.
22 Later on we did it and did not according to how
23 convenience - convenient it was.

24 Q And are you thinking that it would have
25 been shortly after you and Mr. Laubly had made this

1 company-wide or corporate-wide survey of plants
2 that - that you recommended getting some more
3 hygienists on staff?

4 A Well, as I told you the first day -
5 yesterday, early - I told Jim Kennedy the
6 executive - the Vice-chairman of the Board and -
7 with whom I interviewed -- And don't forget, Glenn
8 Fleming was the one that pushed this in the
9 beginning, which - or getting Laubly, for example.
10 I was completely in accord with it. But I knew we
11 had a rather weak department in the sense of an
12 internal staff of our own, even though we used other
13 services; and that I would want ultimately to
14 develop our own programs.

15 And I was told, "Well, that's
16 understandable and meritorious; but why don't you go
17 and review them all and make some assessment and get
18 back to us with your recommendations." So, that was
19 then in my recommendations that followed and was
20 variously ready to go or not ready to go as I
21 explained just a few moments ago (sic).

22 Q I guess what I'm trying to get a sense of
23 is how long it took before this recommendation to
24 hire hygienists for the different plants or the
25 different divisions was fulfilled.

1 A Well, very early on after Chuck and I got
2 to go through -- My first recommendation was to hire
3 the one corporate industrial hygienist. And then
4 we - the two of us then pursued the inspection and
5 the assessment of what the needs would be beyond
6 that. And Chuck helped me to prepare a
7 recommendation at that point that went back to -
8 well, Charlie Francis and Jim Kennedy and Lord knows
9 who else in the corporation at that time for
10 approval. And it looked like we were going to get
11 approval on at least the beginnings of it pretty
12 soon. But then there was a cyclic downturn or
13 whatnot and programs got snatched and we got held up
14 on it. And that happened two or three more times
15 before we finally got to do it in the '70's really.
16 There were some exceptions because there were some
17 places where we were able to get programs started
18 because they had some need differently than others.

19 Q Is it so then that Mr. Barrett got hired
20 in - in the early 1970's ---

21 A That's my recollection.

22 Q --- at Celanese?

23 A Yeah.

24 Q Okay.

25 A I was aware of it as soon as he was hired.

1 I had nothing to do with his selection, however, but
2 I certainly approved it.

3 Q And would Mr. Barrett have been the second
4 industrial hygienist hired by Celanese; that is, the
5 one ---

6 A I believe that's correct.

7 Q --- after Laubly?

8 A I'm trying to think if we had anybody else
9 at that point. I don't think so. I'm very sure
10 that he was the second one, yeah.

11 Q Okay.

12 A Well, I could be wrong on that because we
13 might have hired the extra - the additional ones in
14 the New York office by that time. It was very
15 close.

16 Q All right, sir.

17 A Okay.

18 Q And then did you ultimately persuade
19 management to hire hygienists for the plastics and
20 fibers and coatings and other divisions?

21 A Well, that was in the works at the time I
22 left the company. It was -- It had been approved
23 for fibers and plastics. We had an industrial
24 hygiene -- No. Wait a minute. I believe just
25 plastics and fibers at that first point. And then

1 there were some other units of the corporation, and
2 they fell in along - along after I -- It was after I
3 left I guess before it finally got completed.

4 They had to develop the computerized - and
5 the whole scheme of the health surveillance program
6 first before there was anything else to do. Then we
7 piloted that into the chemical company to see if -
8 did it work; was it meritorious. And it did. And
9 then that then served as a model. In fact, it was
10 the state of the art thing at that point and still
11 is, I think.

12 Q Were any epidemiology studies completed of
13 the Celanese work force before you retired in 1981?

14 A Yes. Yes, there were a number.

15 Q Were those published or just internal ---

16 A No, they were internal. Well, I take it
17 back. Subsequently there have been publications by
18 the doctors that followed as additional work was
19 done on these particular subjects. They were mostly
20 in the fibers companies it turned out to be because
21 there were solvent vapor potential exposures that
22 were of concern to OSHA, had been of concern to the
23 A.C.G.I.H. and so forth. So that we had a pretty
24 elaborate system in place - well, soon after I got
25 there to do this.

1 We had an automated system for monitoring
2 methylene chloride, for example, where one of the
3 early big gas chromatographs had ten ports that went
4 to the breathing areas of workers in ten different
5 stations in that operation. And it continuously
6 rotated monitoring throughout the day and night of
7 these operations so that we got a good, continuous,
8 all-time picture of what exposure levels were so
9 that we could then compare that with health results
10 and known information about hazards, et cetera.

11 Q Did your medical surveillance program as -
12 as proposed by you include surveillance of Celanese
13 retirees?

14 A No. Not basically, no.

15 Q Did there come a time before you left
16 Celanese that an effort was made to follow retirees
17 for health problems?

18 A We gave serious consideration to it, and
19 it never was adopted. It was still an open agenda
20 item when I left, and I don't know what transpired
21 with it in that respect later. I don't believe
22 anything followed on that.

23 We did have an open invitation for
24 retirees to come back if they had problems or needed
25 help with health directives - what doctors to go to

1 for even personal illnesses. And we listened to
2 their health problems and - to see if we felt they
3 were doing the right things on them. But that
4 wasn't adopted. That was not a highly formalized
5 program. Some people took advantage of it. A lot
6 of them would just come by anyhow and say, "Hello.
7 Oh, by the way, I got a bunion" or ---

8 Q Yes, sir.

9 A But it was not a formal program like some
10 of the corporations later developed like du Pont and
11 some of the others.

12 Q Was there ever a program at Celanese to
13 gather death certificate information on retirees?

14 A Yes, indeed.

15 Q That was going on ---

16 A This was part of the health surveillance
17 system. I didn't go into some of these details, but
18 the plan and the actual practice of it would be to
19 follow everybody to death.

20 Q So, this - this feature was - was underway
21 before you retired?

22 A Oh, yes. Yes. And there had been some
23 instances where we had had selective use of getting
24 the death certificates to see if there was an
25 unusual incidence of anything. Particularly when

1 companies like in the Chemical Manufacturers
2 Association or the other trade associations brought
3 up a question: Had anybody seen an incidence of
4 thus and such excessively? And if we had seen
5 anything, we could join in the game and get the
6 death certificates.

7 They became -- They were very hard to get
8 in the earlier years. They became much easier to
9 get by the '70's or even the late '60's I guess.

10 Q Uh-huh.

11 A And we participated with industry groups
12 on a number of instances like that. One that we did
13 was on vinyl chloride, for example - the monomer,
14 but ...

15 Q And how far back did those vinyl chloride
16 studies go do you think?

17 A You mean when did they occur?

18 Q Yes, sir.

19 A Well, the angiosarcoma problem developed
20 at Goodrich in about - well, I will guess - say '68,
21 plus or minus a couple of years. And there were a
22 lot of studies that were done immediately in this
23 country and abroad - mostly in Italy with Maltoni.
24 I'm getting off track. Wait a minute. I forgot
25 where the question was leading me.

1 Q I was just ---

2 A Was it about the death certificates still?

3 Q Well, and the vinyl chloride studies you
4 mentioned ---

5 A Well, we did epidemiologic studies in the
6 plastics part of the corporation - not the chemical
7 part of the corporation - that made some of the
8 vinyl compounds because the piping systems - the
9 largest amount of it was vinyl chloride; but the
10 polymer - not the monomer - the monomer being one
11 atom of vinyl - not atom - but molecule of vinyl
12 chloride; whereas the polymer - the polymer was
13 multiple - it had different chemicals and other
14 characteristics. And you could make piping out of
15 it.

16 The monomer was a gas, for example. But
17 when you polymerized it, it became a gunk; and you
18 could make things out of it. But there was some
19 liberation - potential for liberation of vinyl
20 chloride from piping as it was being made or
21 possibly even afterwards.

22 It later became evident that there was
23 very little liberation from the piping. And we had
24 five -- We had plants from five different
25 acquisitions - small acquiritors - relatively small

1 acquisitions that were making pipe and then were
2 combining into the - as part of the plastics
3 company. And we volunteered - I can't recall which
4 organization it was - oh, through one of the trade
5 associations to participate in this study. We even
6 helped pick the epidemiologist. And that would be
7 at Georgetown University.

8 And I thought we were going to be a good
9 source, but these companies had gone through - all
10 but one of them had gone through two or three
11 purchases and spin-offs and whatnot in prior years,
12 and we couldn't trace the records back adequately
13 to - for them to do an epidemiologic study. We did
14 get death certificates on a few of the people in the
15 one unit, but it wasn't enough to be good. We
16 tried, you know.

17 Q So, I gather there was some period when
18 Celanese made PVC pipe?

19 A Oh, yes.

20 Q I - I thought that I associated the name
21 with ---

22 A I suspect ...

23 Q --- that.

24 A ... the current operator of all that still
25 does. I don't know what happened.

1 Q Okay. Does James Ramey ring a bell?

2 A Oh, yeah.

3 Q And what - what was Mr. Ramey?

4 A Well, James was a - a technical chemist
5 operator out of the - not an operator - but a -- I
6 think he came out of the laboratories originally and
7 had risen into the ranks of management in the
8 chemical company. And he then came up to New York
9 just in the period shortly before I left and joined
10 the then new department of - we called it DEHSA -
11 Department of Environmental Health and Safety
12 Affairs. And he headed a lot of the work involved
13 in some of the product safety and other types of
14 activities as that program got expanded.

15 Q Well, would he have been working under
16 your supervision?

17 A No, he wasn't directly. We worked very
18 closely together. But a former head of the plastics
19 research division was brought in to head the new
20 department - the DEHSA department. And he - he
21 reported to that man.

22 Q Do you remember who that was?

23 A Huh?

24 Q Do you recall who that was?

25 A Yeah, Lee Starr. Starr like the guy in

1 Washington.

2 Q And Mr. Starr - Dr. Starr or whatever he
3 was ---

4 A He was a Ph.D., yes.

5 Q Dr. Starr had spent - what, most of his
6 professional career at Celanese?

7 A You know, I'm not sure when he went there.
8 He was there when I joined the company and probably
9 had been there for some years. But I don't know
10 what his earlier experience had been.

11 Q If we could bounce back to your medical
12 library in Celanese. Do you recall seeing any
13 technical bulletins from Kemper Insurance?

14 A At the moment I can't recall any. I
15 imagine there were some in an earlier day. The
16 library was really developed. That was -- My second
17 employee that I hired was Judith Tins, who was the -
18 had the nominal title of coordinator of toxicity
19 information. And among her responsibility was to
20 organize and systematize the library and the data
21 that we had on toxicity and so forth. And she did
22 quite a fine job on that for many years.

23 Q Was - was the lady a librarian, per se,
24 or ---

25 A No. Well, she -- No. She was the

1 coordinator of toxicity data.

2 Q Well, that sounded like a good title
3 to ---

4 A Well, it ...

5 Q --- push off on management, you know,
6 to ---

7 A Well, it was hard to get a title -- We had
8 problems with the women employees. I hate to say
9 it, but we did. That was way back in '67 - late
10 '66, early '67. She was a well-educated, very
11 brilliant Ph.D. - not Ph.D. - a Phi Beta Kappa
12 person who had worked in Diamond Shamrock for four
13 or five years in their patent acquisitions and
14 licensing and informational services or whatnot.
15 And she knew the chemical world remarkably. And
16 that's what we needed desperately in the early
17 period. And she filled the whole role of that and
18 ultimately got involved with many other things,
19 including very active in the product safety and
20 other parts of the department.

21 Q Well, I gather she had a technical
22 background?

23 A I beg your pardon?

24 Q She had a technical education and
25 background?

1 A She was a Cornell chemistry graduate. Phi
2 Beta Kappa; she was very bright.

3 MR. HUTCHINS: Is this a good
4 time for a break?

5 MR. BLANKS: Sure, a good time.

6 THE VIDEOGRAPHER: We are off
7 the record at 1:56.

8
9 (AT THIS TIME A BRIEF RECESS WAS
10 TAKEN, AND THE PROCEEDINGS THEREAFTER
11 RESUMED AS FOLLOWS:)

12
13 THE VIDEOGRAPHER: We are back
14 on the record at 2:21.

15
16 (By Mr. Blanks)

17 Q Doctor, do you remember a Dr. Lejinski?

18 A Doctor who?

19 Q Lejinski.

20 A Lejinski? How do you spell it?

21 Q I'm thinking L-e-j-i-n-s-k-i or s-k-y.

22 A It wasn't Levinkas?

23 Q No. I think it's Lejinski.

24 A Where was he?

25 Q At the National Cancer Institute maybe.

1 A I can't say that I know him. The name
2 rattles in my head. I knew some of the people at
3 NCI. But I can't recall that particular name.

4 Q Did you ever meet Dr. Hueper while he was
5 at the NCI?

6 A I think I met him at one time at one - at
7 some meeting very early on in my career. But I -
8 I'm not positive of it. I never had any direct
9 dealings with him thereafter certainly - or ever
10 really.

11 Q Okay.

12 A I may -- Somebody later had told me that I
13 had met him, but I don't remember. I can't recall
14 it either. So ...

15 Q Can you contrast for us how the Celanese
16 occupational health program compared to what seemed
17 to be the chemical industry norm at the time you
18 joined the company?

19 A Well, the chemical industry norm was --
20 There were two norms. There were the norms for the
21 big companies that had lots of hazards. And they
22 had - like du Pont, Dow, Monsanto, Eastman - the top
23 five companies. In the bottom five was a lesser
24 degree because most of them were sufficiently
25 smaller. We were in the upper level of the bottom

1 five, but so was Cyanamid and so was -- What did I
2 saw we were -- There were three kind of tied for 5th
3 place - 6th place. Well, it doesn't matter. But --
4 Let me think where I was going.

5 Q Two tiers.

6 A Two tiers. The companies that were
7 smaller - and particularly those that didn't have
8 high risk and known bad exposure incident experience
9 in the past -- Oh, Cyanamid was the other one.
10 Cyanamid -- Who did I say? Cyanamid, Celanese
11 and ...

12 Q Was Hercules in there?

13 A No. They were down below further -
14 considerably. Well, it doesn't really matter. But
15 Cyanamid was the only one in that smaller group that
16 had a very big program. The top companies who had
17 tremendous - lots of chemicals and many hazardous
18 materials and so forth did have by in large more
19 extensive programs than the - than the bottom tier.
20 The one exception was Cyanamid because of its
21 horrendous experience with highly toxic materials in
22 the earlier period - you know, the body counts and
23 all that sort of thing.

24 And within this scope of the bottom group
25 we were probably mid position in terms of the

1 development of our own program. Although in terms
2 of content of what we did, I think we did as well as
3 any of them. We were better than one or two of
4 them.

5 Q Do - do you think over your 16 years or so
6 with Celanese that you managed to improve the
7 company's relative standing in terms of its medical
8 program?

9 A In terms of the other companies?

10 Q Yes, sir.

11 A Probably not a hell of a lot because
12 everybody else was also expanding and doing things
13 in that time. But we sure brought it up - up to
14 speed in terms of our getting it to be a first rate
15 program, at least in the first operations of it;
16 and then it later became expanded to other units.
17 So, we set the thing in motion; and it was a huge
18 success. And it may be one of the better ones in
19 existence right now.

20 Q Going back to the late '40's when you - if
21 I'm remembering the dates right - going back to when
22 you started your Public Health Service work, the
23 TLV's of the American Conference of Governmental
24 Industrial Hygienists had just recently been put
25 out; isn't that right?

1 A Well, they started in about 1946 or '47.
2 The AIHA was one of those years, and the A.C.G.I.H.
3 I think was first just the year before I believe.
4 So, it was right after the war.

5 Q And ---

6 A They are having - I guess it is having its
7 50th anniversary. It must be '48, yes.

8 Q And those guidelines that we discussed
9 yesterday in more detail listed the common workplace
10 contaminants that were recognized during that
11 period?

12 A The ones that they addressed, yes.

13 Q Yes, sir. And the list as you said got
14 larger as ---

15 A That is correct.

16 Q --- time went by?

17 A Yes.

18 Q And even when you began your occupational
19 medicine career, wasn't it true that good practice
20 required you to reduce exposures to workplace
21 contaminants down to a safe level?

22 A Yes, by in large where we knew what a safe
23 level was, of course. And the MAC's, TLV's, PEL's,
24 whatever you want to call them at different times,
25 were hoped to achieve that to the greatest extent

1 possible with a wide margin of safety, although
2 there may be a few individuals who might be
3 unusually susceptible or something of that sort.

4 Q Well, that's a good point. I mean the -
5 the most susceptible individuals were not
6 necessarily protected by the guidelines ---

7 A Well ...

8 Q --- were they?

9 A ... we don't know whether they were or
10 were not. We assumed that there was always that
11 potential that there were outliers. Like on any
12 distribution curve there are people or phenomenon
13 outside of the bell-shaped curve, or there can be.
14 And that's a pretty hard thing to ascertain. But it
15 was intended to get all but somebody who was an
16 oddball or an outlier because they provided like a -
17 essentially a ten-fold safety factor. And ...

18 Q And even the language in the guidelines
19 says that ---

20 A Of the A.C.G.I.H.?

21 Q Yes, sir.

22 A Okay.

23 Q --- says that it's - it's at levels at
24 which it's expected that most workers ---

25 A Exactly.

1 Q --- won't be ---

2 A Yes, sir.

3 Q --- won't be harmed?

4 A That's correct.

5 Q And when you were applying these to reduce
6 exposures to contaminants, really the - the organ
7 system affected by the contaminant was immaterial to
8 you, wasn't it?

9 A Immaterial - the organ system?

10 Q Yes, sir.

11 A Oh, you mean as far as meeting an
12 objective of exposure level ---

13 Q Yes, sir.

14 A --- pure and simple? I guess you would
15 have to say that, yes.

16 Q Because the task, though, was to prevent
17 harm ---

18 A Yes.

19 Q --- to the - to the worker; correct?

20 A Yes. Yeah.

21 Q And I suppose if you knew that a
22 contaminant can cause disease at some levels, then
23 you should try to prevent exposures to that
24 contaminant?

25 A To the degree that was being required,

1 yes.

2 Q Okay.

3 A Or better.

4 Q Because that would really be the only way
5 that - that you or a hygienist like Mr. Laubly would
6 have to prevent incidents of that disease in your
7 work force; that is, by preventing exposures?

8 A You mean by keeping them down ---

9 Q Yes, sir.

10 A --- to within the required limits or
11 lower? Yes.

12 Q Okay. And there are assumptions in the
13 guidelines - the exposure guidelines ---

14 A Well, we don't call them guidelines. They
15 were levels established, and they were to be
16 utilized only as guidelines instead of as regulatory
17 or statutory things. They were to be used as
18 guidelines, not rigid confirmation - of the
19 A.C.G.I.H. now.

20 Q Yes, sir. And that's ---

21 A All right.

22 Q --- that's what I'm trying to focus on.

23 A Okay.

24 Q And leave the rules of the '80's and the
25 '90's ---

1 A I'm sorry. What?

2 Q I was trying to focus on the language and
3 the material you had to work with in the '50's and
4 the '60's ---

5 A Oh, yes.

6 Q --- as opposed to ---

7 A Yes.

8 Q --- more recent times. But one of the
9 assumptions in using these TLV's would be that the
10 worker to be protected had not had earlier exposures
11 outside your company's experience that might have
12 been beyond or well beyond those threshold limit
13 values; true?

14 A That would be true for things that had a
15 persisting potential or that left some residual
16 effects; but not for things - simple chemical
17 toxicities, for example, by in large.

18 Q But there would be a number of things
19 that - for which it would be true?

20 A That is true.

21 Q Your fibrogenic dusts, for example, that
22 accumulate in the lung a - accumulate there?

23 A Yes, sir.

24 Q And the prior exposures - the total
25 dosed - dose in the past is going to be a factor in

1 the man's likelihood to develop a disease?

2 A It could be if there was a sufficient
3 magnitude of exposure, either in the prior or in the
4 subsequent - or both times, yes.

5 Q Right. So, part of the assumption is that
6 if those prior exposures aren't so great - if we are
7 talking about -- Let me start over. Focusing again
8 on the fibrogenic dusts that remain in the lung ---

9 A Yeah.

10 Q --- in using the - the TLV's you are
11 assuming that he doesn't have an accumulated dose
12 from the past that is already ---

13 A Assuming he does not?

14 Q That he doesn't, to which - that - that
15 it's not big enough in the past to - to where the
16 future exposures are going to tip him over the edge
17 and cause disease?

18 A I'm not following that. Was that a
19 question ---

20 Q I'm not either.

21 A --- for example?

22 Q Don't make it worse.

23 A Yeah. I really had trouble with that.

24 Q I did, too, obviously.

25 A Okay.

1 Q Maybe I ought to just forget it.

2 A I'm sorry.

3 Q No. I mean you - you learned that for a
4 dust disease like silicosis, for example, that the
5 dose was a critical part of determining whether
6 somebody was likely to develop a silicosis or not?

7 A Yes.

8 Q And that the greater the intensity of the
9 exposure and the longer the duration of the exposure
10 the more risk the worker had?

11 A Or likeliness, yes.

12 Q Okay. So that, you know, with - with a
13 bad exposure history it might be that keeping future
14 exposures down just under the TLV would not be
15 sufficient to prevent him from getting disease?

16 A That's kind of a complex question. It
17 would depend on the magnitude. If he had a
18 significant exposure and an effect there, he would
19 already have some degree of the disease. So, you
20 are not going to preclude it, but you would minimize
21 the expansion - the extension of it or whatnot in -
22 in most materials.

23 Q Per chance ---

24 A Do you know what I'm saying?

25 Q Yes, sir.

1 A Okay.

2 Q I mean per chance were you in the same
3 section at the 1964 asbestos symposium where
4 Dr. John Wells attended?

5 A Who is Dr. John Wells?

6 Q He was a gentleman that was a plant
7 physician for U. S. Rubber Company down in ---

8 A I don't know him.

9 Q --- down at Georgia. I thought per chance
10 you might have met him.

11 A I don't recall him, no.

12 Q You didn't happen to remember overnight
13 the part of the program that you were chairman of?

14 A No, I didn't. I tried to reconstruct
15 that. And they did not list the session chairmen in
16 the program. They listed everybody else. Some of
17 us were pretty pissed off at that. But
18 nevertheless, they didn't. And it was such a
19 confused meeting. It was utterly chaotic. And
20 nobody could attend everything. And the place was
21 bulging with press and everything else, and there
22 was a -- It's a big blur in my memory - the whole
23 thing.

24 Q Would - would you say that if a worker's
25 job involved breaking, crushing, disintegrating,

1 grinding or mixing of asbestos material that that
2 worker would be potentially exposed to asbestos?

3 A A worker doing -- What were the jobs
4 again? Breaking ---

5 Q If it involved breaking asbestos ---

6 A What do you mean by "breaking"?

7 Q Just taking asbestos materials and
8 breaking them apart ---

9 A All right.

10 Q --- or crushing them.

11 A All right. Or crushing?

12 Q Or doing something that - that caused
13 the ---

14 A Okay.

15 Q --- the disintegration of it.

16 A And what were the others?

17 Q Grinding ---

18 A Grinding.

19 Q --- or mixing.

20 A Mixing. Okay.

21 Q Or even cleaning up the residue from that.
22 Would that worker be potentially exposed to
23 asbestos?

24 A Potentially. He would be potentially
25 exposed.

1 Q And would you agree that you can't
2 scientifically rule out harmful exposures to
3 asbestos in such a worker ---

4 A In a what?

5 Q --- in a worker such as we described
6 without actually measuring the exposure levels?

7 A The first part of the question was you
8 couldn't rule out ---

9 Q Let me start over.

10 A Yeah. I'm sorry. This is my fault. I
11 got distracted with the second part.

12 Q Okay. If - if we speak of a worker whose
13 job involved that sort of manipulation of asbestos
14 material, would it be right that you could not
15 scientifically rule out harmful exposures to
16 asbestos in that worker without actually monitoring
17 his work environment?

18 A You couldn't rule it out or rule it in
19 either. It would be totally a guess.

20 Q It would not be sufficient to - to just
21 make a visual survey of - of his work area and
22 conclude that there weren't any excessive exposures
23 involved, would it?

24 A No. Except that you know certain types of
25 things and the degree to which they are in the open

1 or whatnot are worse than others. And you might
2 make an assessment. And if it was a small amount
3 and just minor involvement with manipulation, there
4 wouldn't be very much. If it was a massive hunk of
5 it or a large - a lot of it and he had to do it,
6 then there could be more. The quantitative aspect
7 of it would depend on a variety of factors, yes.

8 Q But the only way to really get hard data
9 to work with would be to do air monitoring of that -
10 that ---

11 A Yeah.

12 Q --- activity?

13 A Are you talking about an isolated job, for
14 example, as opposed to what he did regularly or ---

15 Q Well ...

16 A It could be quite a difference sometimes.

17 Q In either context. I mean you really
18 wouldn't know what kind of exposure potential there
19 was without doing some - some monitoring?

20 A That - that is true, yes.

21 Q And would you agree that unless you know
22 that that worker is getting no harmful exposures
23 that you do need to protect him in order to - to
24 prevent the possibility of disease?

25 A You said in getting no ...

1 Q I said isn't it right that unless you
2 know ---

3 A Oh, you know, yeah.

4 Q --- unless you know that he's getting no
5 harmful exposures, then you have to - to assume that
6 he might be and act to protect him?

7 A See, that's -- It was the other no I was
8 asking about - n-o. We don't like to talk about no
9 exposure ---

10 Q Well, I ...

11 A --- like zero, for example. We are all
12 exposed to asbestos. You are breathing it right in
13 here.

14 Q Well, let me start over because I ---

15 A Yeah.

16 Q --- I tried to deal with that concern ---

17 A Yeah.

18 Q --- of yours.

19 A Yeah.

20 Q I said isn't it right that unless you
21 know ---

22 A K-n-o-w.

23 Q --- that that worker is getting no harmful
24 exposures to asbestos, then you need to protect him
25 in order to prevent disease?

1 A Unless you know that there is no harmful
2 exposure, you need to protect him. Well, of course,
3 that would be a form of protecting if you know it.
4 If you know he has no harmful exposure, that is a
5 form of protection. Now, does that answer it?

6 Q And if you don't ---

7 A If you don't know ...

8 Q --- know that, then you should ---

9 A Well, yeah. You would have a hard time
10 making an assessment. But again, you can make
11 certain estimates based on the magnitude of
12 potential of exposure to a degree. Some forms of
13 asbestos in the - the form in which it exists such
14 as that bound into washers or gaskets or whatnot,
15 there is no hazard in handling it all day and
16 banging it and doing whatever you want to with it.
17 It doesn't give you any hazard.

18 But you talked about pulling it apart and
19 milling it and -- And all the milling today is
20 always done internally in a closed system as opposed
21 to some of the early systems that were all out in
22 the open.

23 Like in the book last night, I was amazed
24 to see an early grinding operation where there were
25 two big wheels in a floor. They moved them up and

1 down against the floor wide open. This had to do
2 with silica. But the same thing would apply. If it
3 were in an enclosed system, that's different than if
4 it were in an open -- Every - every operation has
5 its characteristics and its potential for exposure
6 of consequence or not. And you have to judge it
7 in -- You can make some judgments that are quite
8 reasonable based on even a visual observation of the
9 process - that are reasonable; otherwise, you may
10 have to do sampling.

11 Q Certainly if you observe visible dust in
12 the air in connection with the - the handling of a
13 fibrogenic material, you at least would be alerted
14 to do some sampling and monitoring?

15 A If that's the full content of the - of the
16 dust is the fibrogenic material. Some of the early
17 work, for example, measured total dusts in a very
18 dusty work environment. And only a very small part
19 of it many times was asbestos or silica or
20 whatever. So, again, you have to know what you are
21 dealing with and -- But you are basically right.

22 Q Which brings us back again in ---

23 A Yes.

24 Q --- a circle to do you have to monitor to
25 know what you got and do analysis?

1 A Yeah. By in large that's correct.

2 Q Would you say, Dr. Dixon, that up to the
3 time you retired from Celanese that you ever knew
4 what the - the zero effect level of asbestos
5 exposure was?

6 A I don't know the zero effect level of
7 anything. We talked about that yesterday as you
8 recall.

9 Q Uh-huh.

10 A We don't use that zero terminology or no
11 exposure because anything that exists is likely to
12 be present in any environment to some degree.

13 Q Well, then ---

14 A We know that many of the airborne
15 materials, be they allergens, fibrogenic dusts or
16 whatever are omnipresent; they are always out
17 there. And you know right here today you are
18 inhaling asbestos and probably some silica even, but
19 mostly more likely asbestos based on structures,
20 vehicles, all the things that happen. The National
21 Academy of Sciences some years ago did studies of
22 airborne asbestos in metropolitan communities, and
23 many of them had a level higher than the current
24 PEL. So ...

25 Q But it's true that even by the early ..

1 1980's it wasn't known what was the maximum amount
2 of asbestos exposure a susceptible person could have
3 without any health effects?

4 A Or even a nonsusceptible person. We don't
5 have a cutoff point. It's not been scientifically
6 possible to nail it down. And even if you could
7 nail it down generically or generally, it wouldn't
8 apply to every individual necessarily because of the
9 variability of people.

10 Q Was there during your time at Celanese
11 ever a program to remove all of the
12 asbestos-containing materials from Celanese plants?

13 A To remove all?

14 Q Yes, sir.

15 A Not to my recollection.

16 Q So ---

17 A There was a move to stop using it in new
18 applications. But it's kind of like the schoolhouse
19 problem. It's - there are a lot of variables, dos
20 and don'ts. And I'm not aware that we undertook
21 that, except insofar as when materials might be
22 removed ---

23 Q Yes, sir.

24 A --- they would then try to substitute
25 something else in its place.

1 Q And then it would be the case that by 1981
2 there were still in all probability
3 asbestos-containing insulation materials in place
4 in, say, the Bishop plant, for example?

5 A I presume so. Oh, I know there was some,
6 yes.

7 Q What sort of asbestos health hazard
8 information did you as a medical director or as a
9 plant doctor at Cyanamid ever receive from the
10 manufacturers of the asbestos insulation products
11 that were used in your plants?

12 A I'm not aware of any specifically. I
13 presume at some point in the late '70's or during
14 the time I ended - I don't know when it began - the
15 companies who provided asbestos itself did begin to
16 label the content hazard and so forth. And, of
17 course, OSHA required it from '72 on. But I don't
18 have a recollection of just what it was earlier.

19 Q And the truth is you have never personally
20 seen a warning on an asbestos product or package
21 as - that would have been used in Celanese
22 facilities, have you?

23 A I think I did by the mid-'70's after the
24 OSHA act because they began to do it.

25 Q Okay.

1 A You know, the act itself made monitoring
2 and labeling and placarding and so forth a
3 requirement. And I'm sure I saw it. I know I saw
4 it. I can't recall -- I can envision seeing it; but
5 I - my - my memory of that is fuzzy. But ---

6 Q I know that ...

7 A --- I have seen it since then, too. And,
8 of course, it's hard to keep in mind ---

9 Q Yes, sir.

10 A --- which was which.

11 Q A little variation on that ---

12 A Yeah.

13 Q --- do you remember ever receiving any
14 toxicological data about asbestos from the
15 manufacturers of asbestos insulation products?

16 A Well, we never called it toxicological for
17 fiber; but some people do. But you mean did I
18 personally receive any?

19 Q Yes, sir.

20 A I'm not aware that I did. It may have
21 come into our office, but I honestly can't recall
22 that I personally saw - saw it. I may well have,
23 but I just don't recall.

24 Q If you had been provided with information
25 that asbestos was a suspected carcinogen, would that

1 have been useful to you in your practice of medicine
2 at Celanese in the '60's?

3 A Well, not really because -- Well, no, not
4 really.

5 Q And why is that?

6 A Because we already had begun to hear some
7 of the early indications of that possibility - of
8 the problem particularly from the Selikoff symposium
9 and the papers he presented at that point. It was
10 hard to believe some of that because it was so
11 foreign to what we expected or had any reason to
12 anticipate.

13 But it certainly alerted us to the fact
14 that this needed further study and at some point
15 might prove to have some merit. But it took some
16 years before that was finally accepted generally
17 as - as was always the case, particularly in the day
18 prior to the electronic transmission of stuff and
19 whatnot. A new medical finding is always suspect
20 initially.

21 And then it required replication, further
22 study, peer review. And at some point the basic
23 body of the people with sufficient expertise will
24 make a decision yes, it is. And that will be
25 disseminated. But it takes a long time before it

1 gets out and is widely known. I would be surprised
2 if ---

3 Q Well, let's go back ...

4 A --- not more than ten doctors you would
5 ask on the street about it knows today. But those
6 in the work areas would have knowledge sooner. But
7 it - it doesn't come quickly.

8 Q Well, let's go back a decade further to
9 when you began working at Cyanamid - American
10 Cyanamid Company.

11 Would information then that asbestos was a
12 suspected carcinogen have been useful to you in
13 doing your work?

14 A Would it have been useful?

15 Q Yes, sir, useful.

16 A What do you mean by "useful"?

17 Q Well, I mean would - would you have
18 inquired further into the subject or would you ---

19 A I ...

20 Q --- have just ignored it?

21 A I presume I would have been startled and
22 would have wanted to find out what this was all
23 about. But it certainly wouldn't be something we
24 would act on immediately. We would talk to our
25 experts and see what they thought and what they were

1 doing to try and find out was this, in fact, the
2 truth - I mean was that a real finding because there
3 was no knowledge generally that that was a potential
4 back in that period.

5 Q Which persons would you include in that -
6 that group of experts that would have been
7 appropriate to consult in the 1950's for the
8 confirmation of ---

9 A Well, I think ...

10 Q --- asbestos' suspected carcinogenicity?

11 A Say again. If -- What - what group would
12 I want to go to?

13 Q (Nodding affirmatively)

14 A Well, people who had expertise in
15 carcinogenesis - chemicals and other carcinogenesis;
16 people who were familiar with the dust diseases and
17 so forth. And you would end up going to some of the
18 professional or trade association groups; people
19 whose opinions you value in trying to assess this
20 sort of thing. It probably couldn't be resolved on
21 an immediate basis because there wouldn't be a basis
22 of additional study from whatever the source of that
23 comment had arisen (sic).

24 Q Can you -- Can you think of any
25 individuals that would fall into that group of

1 experts that would have been people to consult in
2 the late '50's?

3 A You mean individuals themselves?

4 Q Yes, sir.

5 A Well, let me think about that. I would
6 certainly want to go to some of the National Cancer
7 Institute people who were the chief custodians and
8 most knowledgeable people about chemical and other
9 carcinogenic activities. I would talk to people -
10 medical directors and others in industries that had
11 a significant potential for exposure to the
12 compounds let's say - or a potential for exposure to
13 the compounds; the associations that dealt with the
14 dust diseases and so forth. That type of -- You
15 would seek that type of expertise. Back at that
16 time I don't know who particularly or specifically
17 you would ask. But I would have to think about
18 that.

19 Q I guess we can image at that time, the
20 last half of the '50's, that Anthony Lanza, for
21 example, would - might be a candidate having -
22 having surveyed asbestos manufacturing plants while
23 in the Public Health Service and having had dealings
24 with some of the insulation manufacturers.

25 A What time period was this?

1 Q I'm thinking, you know, when you were
2 getting out of school from Kettering.

3 A When I was getting out?

4 Q Yes, sir, around '56, '57.

5 A Well, I would even talk to the people at
6 Kettering who had a lot of interest and knowledge
7 about the various dust diseases and had worked to
8 some extent -- Certainly the people at Pitt like
9 Hatch and others who had done much of that work.
10 But I wouldn't have known really who the experts
11 were on that at that time because I had never
12 encountered the problem.

13 Q No, I'm not being critical.

14 A Oh, no. I'm just saying I wouldn't have
15 known ---

16 Q Uh-huh.

17 A --- at that time because I wasn't aware
18 that there was a potential for that at that time.

19 Q Would you agree with me that if a
20 manufacturer had animal testing data showing that an
21 ingredient in its product was a - was a carcinogen
22 that it - it should pass on that information to
23 users?

24 A You say if a ---

25 Q If a manufacturer of a product actually

1 had animal testing data that showed suspect
2 carcinogenicity ---

3 A You are talking about in general?

4 Q In general.

5 A Yes. And, you know, we did that with
6 1.3 - not 1.3 - but betapropiolactone.

7 Q Did that with what?

8 A The compound betapropiolactone that I
9 discussed yesterday that I went to the OSHA hearings
10 on and presented our data and recommended that it be
11 added to the list of carcinogens, which it was and
12 still is. That would be a very fine way to do it.

13 Q Well, Celanese did it because it was the
14 right thing to do, didn't it? There wasn't any law
15 for you to do it?

16 A We thought so at that time. It later
17 turns out that it may have been a false cry or
18 crying wolf unnecessarily because we have never seen
19 a case in humans. So, it's -- You are damned if you
20 do and you are damned if you don't. But I think we
21 did the right thing.

22 Q Well, the better course would be to ---

23 A Well, we took the prudent course and ...

24 Q --- to share what you knew, wouldn't it?

25 A But then later when you find that the

1 evidence doesn't support -- Animal studies aren't
2 translatable accurately to human experience. And
3 even isolated human experiences aren't necessarily
4 useful to reflect what other individual experiences
5 might be.

6 And as I said earlier, if something comes
7 along that is totally foreign to what you have known
8 about something in the beginning, you look at it
9 with a great deal of skepticism. How many things
10 have you read in the papers in just the last few
11 months about some new compound that's going to cure
12 this or going to cause that, and then you never hear
13 another damn thing about it in the future because it
14 just never cut the - cut the mustard.

15 Q But ---

16 A It was never substantiated or peer
17 reviewed to be reasonable.

18 Q Well, certainly it wouldn't be right to
19 suppress and withhold information that you had about
20 a product - a product's potential harm and health
21 effects, would it?

22 A Well, that's an awkward subject. When -
23 if somebody encounters something like this in the
24 very first blush of it, he's probably pretty
25 astounded himself and not even comfortable that this

1 is realistic. You would even want to repeat your
2 observations or do whatever you could to clarify
3 "Well, is this truly what it looks like it is or is
4 it just some fluke or is it one of these things like
5 the things published in the paper that you never
6 hear about again?"

7 And if it's a product, for example, you
8 might want to hold back releasing deleterious
9 commercial information because - deleterious
10 information that would be commercially damaging
11 until you had a reasonable basis for feeling
12 comfortable that it was real.

13 That was somewhat the case with what we
14 ran into with betapropiolactone. We now don't think
15 it probably was real even though we had some
16 evidence from the animal studies. All I'm saying is
17 that you use some good judgment about what you say
18 and so forth. You just don't go running out
19 blabbing it and putting papers out that aren't
20 scientifically valid or whatnot.

21 It takes a substantial body of information
22 before one even poses the likelihood of something,
23 except to say, "Here is a finding and it is
24 something that needs further study." That would be
25 the maximum extent of an early observation of

1 something of the sort.

2 Q Well ---

3 A And that could be warranted based ---

4 Q And you ...

5 A --- on whether it was realistically
6 sounding enough or sufficiently prevalent to warrant
7 that kind of approach.

8 Q Well, if you - you had that kind of
9 information about your product, wouldn't you be
10 obliged to - to look further into the - the question
11 and do more experiments?

12 A That was just what I said, yes.

13 Q Okay. You wouldn't be a -- You wouldn't
14 be ---

15 A Or have others do it or whatever.

16 Q It wouldn't be okay to just sit back on -
17 on your suspicions and do no more and keep selling
18 the product, would it?

19 A Not if it was something that had the
20 likelihood of real significance, of course. If it
21 was some little isolating fly-by-night-type thing,
22 it wouldn't necessarily require that type of
23 approach. But certainly if it were something that
24 had some potential of being significant, you would
25 want to see it pursued. Now, whether you did it or

1 you stimulated others to do it or whatnot is another
2 matter.

3 Q Certainly in applying - in applying
4 information you obtained as an industrial physician
5 you didn't require absolute scientific certainty
6 about a material or - or its health effects before
7 instituting precautions and - and exposure controls,
8 did you?

9 A Not if it was very realistic. And I
10 illustrated that on the betapropiolactone. We
11 instituted very rigid controls immediately so that
12 we protected to the greatest degree that we
13 reasonably could in the interim period while it was
14 being further assessed and decided what to do. That
15 would be prudent ---

16 Q To err ...

17 A --- action.

18 Q To err on the side of caution?

19 A Exactly.

20 Q Okay. Because you are not going to get a
21 second chance if you end up with exposures without
22 precaution; you don't get to go back and do it
23 again?

24 A That's exactly right.

25 Q You just end up counting the bodies as you

1 had said?

2 A Yeah.

3 Q All right, sir.

4 MR. BLANKS: Doctor, I think I
5 have exhausted the subject for the
6 moment. I can see others rising to
7 the task here, though.

8 THE WITNESS: Thank you.

9 MR. BLANKS: Thank you.

10

11 EXAMINATION BY MR. WEWERS:

12 Q Dr. Dixon, can you hear me from here okay?

13 A Yes, sir, very well.

14 Q As I introduced myself to you yesterday
15 I'm Eric Wewers, and I represent a defendant in this
16 matter.

17 A Who is that just so I'm ...

18 Q Riley Stoker Corporation.

19 A Okay.

20 Q I want to jump back with you a little bit
21 to the New York Academy of Sciences symposium
22 in '64 ---

23 A '64, okay.

24 Q --- and kind of use that as a starting
25 point to maneuver from.

1 Based on what you have testified to
2 today - I want to make sure my understanding is
3 correct - in your opinion asbestos-related
4 diseases -- Well, let me back up and do it this
5 way.

6 Prior to 1964 what was your opinion or
7 your understanding of the potential health hazards
8 associated with asbestos exposure?

9 A I assumed that in this country with the
10 principal types of asbestos used early on in this
11 country and the experience of virtually no cases,
12 that we would have a very low incidence of
13 asbestosis. And we knew of no other hazards of
14 asbestos but asbestosis. I think that was ...

15 Q And did your understanding of the
16 development of asbestosis include a - a certain
17 level of exposure for a certain period of time? In
18 other words, did it have to be a large amount of
19 exposure to asbestos for a significant period of
20 time?

21 A Yes, and some of the earlier studies
22 that - ended up giving rise to the level of 5
23 million particles per cubic foot as a proposed safe
24 standard, based on the early data. And that
25 lingered for many years before it eventually was -

1 by different methods of analysis was lowered
2 somewhat and then subsequently lowered several times
3 subsequently to provide wider and wider safety
4 margins. But that -- Did I respond to that
5 properly?

6 Q You did. And - and the 5 million
7 particles per cubic foot of air threshold limit
8 value or TLV that would - that you just referenced
9 is the same that you talked with Mr. Blanks about
10 that went into effect from the A.C.G.I.H. in 1946;
11 correct?

12 A It had been informally instituted even in
13 prior years from the early work, yes.

14 Q Okay.

15 A I didn't know it at that time, of course.

16 Q But that remained in effect until
17 approximately 1969 or so; isn't that correct?

18 A Yes, somewhere in that '60 period.

19 Q Now, considering - or taking into
20 consideration all the conversations that you have -
21 that you have had throughout your career with - with
22 the people Mr. Blanks has talked to you about, your
23 committee positions and organization positions that
24 you've had, was - was it - was your view or your
25 understanding of asbestos-related problems - health

1 hazards prior to 1964 the generally accepted view
2 within the scientific and medical community at that
3 time?

4 MR. BLANKS: Object, lack of
5 foundation.

6 A I believe ...

7 THE WITNESS: I'm sorry?

8 MR. BLANKS: I was just making
9 an objection.

10 A I believe so. That is among people of
11 informed nature, less so for others.

12 Q Okay. Now, when Dr. Selikoff made his
13 presentation in 1964, did his study and the data
14 that he presented basically confirm the generally
15 accepted view as you understood it at that time; or
16 did it contradict the generally accepted view?

17 A Well, it contradicted it very strongly.
18 And it presented data of extremely heavy exposure
19 levels in the shipyards, for example, and of mixed
20 types of asbestos that we weren't commonly used to
21 experiencing in the earlier period upon which the
22 judgments had been made previously.

23 Q And after Dr. Selikoff had made this
24 presentation of his study and his data, what type of
25 reaction did that evoke from the scientific and

1 medical community at the time?

2 MR. BLANKS: Objection, lack of
3 foundation.

4 A There was a multiple reaction in effect.
5 There was startle, of course, initially because it
6 seemed so foreign to anything that we had reason to
7 suspect; concern, of course, feeling the need for
8 further clarification of the subject; a little bit
9 of anger even in the sense because in the early day
10 Selikoff had been considered a renegade, an outlier
11 because he had been very negative on industry for
12 good reason as we later learned. But nevertheless,
13 the original reactions involved all of those
14 things - suspicion, but concern and feeling the need
15 that, gosh, this has got to be looked into.

16 Q And your understanding of the reaction of
17 the scientific and medical community, did that come
18 from your attendance at this symposium and in
19 talking to the other doctors and industrial
20 hygienists that were there?

21 A Yeah, and subsequently, too ---

22 Q Okay.

23 A --- over a long period of time.

24 Q Prior to that symposium - I believe
25 yesterday you testified that you had Dr. Selikoff

1 come and speak to a section that you were ---

2 A The AIHA annual convention, the
3 medical ---

4 Q Okay.

5 A --- section.

6 Q And did Dr. Selikoff present some of these
7 same views at that section meeting that he spoke at?

8 A To the best of my recollection he did. It
9 was a very preliminary report. And then he
10 augmented that substantially at the later meeting
11 of his - at the New York Academy of Sciences '64
12 meeting.

13 Q Was the reaction at - at the section
14 meeting the same or similar to the reaction at the
15 symposium and thereafter that you experienced?

16 A It's a little hard to remember back to it
17 exactly. He was an awesome performer in giving this
18 paper. And we had the worst bunch of papers
19 otherwise in that meeting. I never saw such a bunch
20 of dog papers. But he gave a very fine presentation
21 and very low key. And I think it kind of almost
22 went over our heads a little bit to some degree.

23 But he indicated at that time that there
24 would be further information coming out very shortly
25 and alluded to the meeting. So, it didn't create a

1 mass hysteria or anything of this sort; but
2 certainly concern and -- And he gave a remarkable
3 impression by the way he conducted himself at the
4 meeting.

5 Q You have -- You have talked earlier today
6 and yesterday about how when new information comes
7 out or contrary information comes out, it takes
8 awhile for that to be become assimilated into the
9 scientific and medical community.

10 A Even as a question.

11 Q Was the data and the study presented by
12 Mister - Dr. Selikoff in 1964 of such a situation
13 that it took the medical and scientific community a
14 period of time to digest it, review it, confirm it,
15 examine it?

16 MR. BLANKS: Lack of
17 foundation.

18 A Very definitely.

19 MR. BLANKS: Speculation.

20 Q Why would -- Why wouldn't the medical and
21 scientific community just automatically accept the
22 study by Dr. Selikoff or the study by any doctor?

23 A Well, you don't accept anything like that
24 that's totally new and foreign and sounds strange
25 just from a single set of observations. You would

1 want to see some replication of it; certainly a very
2 careful peer review of it to see if - did it make
3 sense; were the methods used appropriate; all of the
4 elements of it to -- And this takes time.

5 And it took a lot more time in that period
6 than maybe can be accomplished with something urgent
7 today because of the telecommunications, electronics
8 and so forth. Everything was very slow. And the
9 profession was very stodgy, too, in the old days.
10 They didn't want to accept something new too
11 quickly. If it was horrendous or earth shaking,
12 they would. But something like this probably
13 wouldn't be perceived in that magnitude at that
14 time. And particularly since it was so foreign to
15 what their experience had been previously.

16 Q Now, Dr. Selikoff's study dealt with
17 roughly 17,000 or so insulation workers on board
18 ships?

19 A I can't remember the numbers. The number
20 17 something - 1,700. I have forgotten the number,
21 but it was a substantial number.

22 Q And it was of insulation workers that
23 worked on board ships in shipyards?

24 A Exactly.

25 Q Now, you would -- Well, would you agree

1 that the exposures of insulators on board ships -
2 inside the bows of the ships is a significantly
3 different exposure than what one might expect in a
4 chemical plant out in the open air?

5 MR. BLANKS: Objection,
6 speculation; lack of foundation. Go
7 ahead.

8 Q You can go ahead and answer.

9 A Oh, very definitely. It's very
10 substantially different. And there is a magnitude
11 difference in terms of its exposure potential.

12 Q How would the -- What would be those
13 differences?

14 A You mean what ---

15 MR. BLANKS: Objection,
16 speculation; lack of foundation.

17 A As I said it would be large orders of
18 magnitude - a difference of exposure mainly because
19 it's in a confined space by in large without air -
20 adequate air circulation or space for it to
21 distribute itself away from the worksite. Whenever
22 one works in an enclosed, tight quarter, I think the
23 potential for exposure to any given substance which
24 is released is greatly accentuated.

25 Q Based on ---

1 A And that was a new type of thing that --
2 Nobody had encountered anything like that except
3 perhaps in the textile operations in England in the
4 early years. So ...

5 MR. BLANKS: Objection,
6 nonresponsive. I'm not sure what he
7 was responding to.

8 Q Based on your work as an industrial
9 hygienist throughout your career, your work and
10 training as a doctor and the experience that you
11 have had, do you have an opinion as to when there
12 was documented scientific medical research and
13 literature available so that the scientific and
14 medical community were aware that insulation workers
15 were at a risk of developing an asbestos-related
16 cancer?

17 A We are just confining it to the insulator
18 workers?

19 Q Right now, yes, sir.

20 A Well, I guess in general even it was quite
21 well into the '70's and some even as far as the
22 '80's. We had to accept some of this in the early
23 '70's because of the OSHA standard. But I think
24 many of us felt -- Most of -- A great deal of people
25 felt that this was excessive control. But it takes

1 a long time for something like that to come through
2 and be assimilated. And as I said a little earlier,
3 I don't suspect many physicians in practice today
4 have any inkling of what can happen with asbestos,
5 except those physicians who had occasion to need to
6 deal with it - occupational and others doing that
7 type work.

8 Q Would it be fair to say that
9 Dr. Selikoff's presentation of data in 1964 raised
10 the question and the question then wasn't answered
11 in terms of asbestos-related cancers until sometime
12 in the early to mid-'70's after research and
13 analysis had been performed by the scientific and
14 medical community?

15 MR. BLANKS: Objection, calls
16 for speculation and lack of
17 foundation.

18 A Well, that's certainly true, yes.

19 Q And, Doctor, when we are talking -- When I
20 reference asbestos-related cancers, are you - are
21 you familiar with mesothelioma?

22 A Yes. Generally, yes.

23 Q And in terms of when mesothelioma was
24 associated with asbestos exposure, would that hold
25 true with your - with what you previously answered

1 in terms of asbestos-related cancers?

2 MR. BLANKS: Objection,

3 hopelessly vague.

4 A I'm not quite sure where ---

5 Q Okay.

6 A --- you are coming from - a time or what.

7 Q Okay. Let me -- Let me ask it this way
8 then. Doctor, do you have an opinion based on your
9 training and your experience as an industrial
10 hygienist and as a physician as to when there was an
11 association between asbestos exposure and
12 mesothelioma?

13 MR. BLANKS: Lack of foundation.

14 A It followed the work of ---

15 MR. BLANKS: Speculation.

16 THE WITNESS: I'm sorry.

17 MR. BLANKS: Go ahead. I'm

18 sorry to interrupt you, Doctor.

19 A Forgive me. It followed the work of
20 Wagner in South Africa who published a report on
21 this back in the 1960's I recall or thereabout. And
22 it caused quite a stir because mesothelioma, of
23 course, was a very rare tumor. It occurred with
24 some other exposures; namely erionite and some of
25 the other mineral deposits in Turkey and some other

1 places, and with medical contrast media used in like
2 kidney - internal kidney X rays and some other
3 things. Some of it occurred without any known
4 reason.

5 But here was a significant incidence that
6 was very - obviously had to be related to something
7 new; and exposure was established and subsequently
8 clearly proven. But it took awhile for it to be
9 broadly accepted. But people jumped on
10 investigating and looking at it very promptly. It
11 was so unusual. It was such a remarkable thing.

12 Q Dr. Wagner's study in 1960 dealt with
13 miners out of South Africa; isn't that correct?

14 A I believe it was miners, yes.

15 Q That study ---

16 A It may have been some other category, too.
17 But I think -- My recollection it was with miners,
18 yes.

19 Q Primarily miners of asbestos; correct?

20 A Of amosite. Well, non-serpentine.

21 Q Okay.

22 A Crocidolite or whatever, you know, the ...

23 Q That study didn't address insulation
24 workers or people who were applying or working
25 directly with insulation which may have utilized

1 asbestos, did it?

2 A Not to my recollection.

3 Q Based on your work as an industrial
4 hygienist and your membership on committees and in
5 organizations and your training, do you have an
6 opinion as to when it was generally accepted in the
7 scientific and medical community that there was a
8 risk to insulation workers of contracting
9 mesothelioma from asbestos exposure?

10 MR. BLANKS: Calls for
11 speculation; lack of foundation.

12 A I honestly don't know the answer to that.
13 I may have it somewhere; but I - I can't pull it up.

14 Q Would it be fair to say that it was at
15 least 1960?

16 A Oh, it was after that, yes.

17 Q Okay.

18 A But I can't recall just how long before it
19 was ---

20 MR. BLANKS: The same
21 objections.

22 A I should know it, but I'm just not -- I
23 said I feel like I should know it but I'm just not
24 bringing it up out of my head at the moment. Maybe
25 it's because of last night not sleeping.

1 Q Well, Doctor, would you agree that
2 knowledge of potential health hazards is a
3 constantly changing area; new information is
4 constantly being developed?

5 A In general?

6 Q Yes, in general.

7 A Oh, yes. Yes.

8 Q That's not a static arrangement of
9 information. It's not like you just learn something
10 and that's it?

11 A Oh, Lord.

12 Q It's constantly changing. And what might
13 be considered safe and appropriate one day, ten
14 years from then may not be?

15 A That's right. That's exactly true.

16 Q And advancements in technology and - and
17 analytical equipment provides for this change in
18 in-depth analysis, doesn't it?

19 MR. BLANKS: Objection, vague.

20 A Among other things, yes.

21 Q While you were working at Celanese,
22 Doctor, would it be fair to say that one of your
23 primary responsibilities was to protect the health
24 and the safety of the Celanese employees while they
25 were working at the plant?

1 A Yes, sir. It was a preventive program
2 thrust basically.

3 Q And one way to do that was to participate
4 in the committees and organizations that you did so
5 that you could continuously learn of potential
6 hazards that may exist?

7 A That is correct.

8 Q In addition to just examining the work
9 environment and the occupational environment there
10 at the various plants?

11 A Absolutely, yes.

12 Q And when you -- When you in your role at
13 Celanese learned of potential hazards, would it be
14 fair to say that you saw that the necessary steps
15 were taken to protect the health and safety of the -
16 the employees that may potentially be affected by
17 those hazards?

18 A In general you are talking about?

19 Q Yes, sir.

20 A By in large, yes. Oh, yes, very
21 definitely, to the extent possible, of course.

22 MR. WEWERS: Doctor, I believe
23 those are all the questions I have
24 for you. I appreciate your time.

25 THE WITNESS: Thank you.

1 THE VIDEOGRAPHER: I need to
2 change the tape. We are off the
3 record at 3:18.

4
5 (AT THIS TIME A BRIEF RECESS WAS
6 TAKEN, AND THE PROCEEDINGS THEREAFTER
7 RESUMED AS FOLLOWS:)

8
9 THE VIDEOGRAPHER: We are back
10 on the record at 3:19.

11
12 EXAMINATION BY MR. HUTCHINS:

13 Q Dr. Dixon, as you know, my name is Mike
14 Hutchins; and I represent Celanese in this case. I
15 would like to ask you a few questions based on the
16 testimony that you have already given in response to
17 questions asked you by Mr. Blanks and other
18 counsel.

19 You mentioned in your testimony that you
20 worked for the United States Public Health Service
21 in the early 1950's working with pesticide products
22 and their application. Do you remember that,
23 Doctor?

24 A Yes, sir.

25 Q Was your goal and that of the other U. S.

1 Public Health Service professionals you worked with
2 to eliminate or bring down to zero all exposures to
3 the pesticides that you were studying?

4 A To bring down or what?

5 Q To eliminate or bring down to zero all
6 exposures to the pesticides that you were studying.

7 A No, quite to the contrary. There we were
8 trying to determine safe levels to which people
9 could be exposed. And if they weren't exposed, it
10 wouldn't control the vectors.

11 Q Okay. Would it be fair to say that in
12 your work with pesticides it was assumed that there
13 would, in fact, be some exposure to pesticides?

14 A Exactly, yes.

15 Q All right. And you were attempting then
16 to determine what a safe level of exposure for the
17 worker would be?

18 A That is correct.

19 Q You have given some testimony previously,
20 Dr. Dixon, regarding what we have referred to as
21 MAC's, TLV's and PEL's, am I right?

22 A The MAC's?

23 Q Right.

24 A Yes.

25 Q And that's an acronym that stands for

1 maximum allowable concentrations; right?

2 A Correct.

3 Q And TLV's refer to threshold limit values?

4 A Yes.

5 Q And PEL's - that's another acronym that
6 stands for permissible exposure levels?

7 A That is correct.

8 Q Okay. Now, I know you have given
9 testimony about these already. I believe you told
10 us that these were promulgated in part by the
11 American Conference of Governmental Industrial
12 Hygienists; is that right?

13 A Yes. That's true.

14 Q Okay.

15 A Even the PEL's which were the OSHA numbers
16 because they adopted the A.C.G.I.H. levels.

17 Q Over time have these MAC's, TLV's or PEL's
18 sought to eliminate exposures to various substances;
19 or do they assume some level of exposure to each -
20 each substance and seek to find a safe level of
21 exposure?

22 A Well, if the product exists, there's going
23 to be exposure, of course, potentially. It may be
24 very small or not, but they -- Our objective is to
25 find out a level below which it would be rare to

1 find any adverse effects. It had a wide enough
2 safety margin in addition to the actual level that
3 would be - that would be needed to be cut down to to
4 catch almost all people.

5 Q All right. Over the course of your
6 professional experience in the field of industrial
7 health, has there always been an MAC or a TLV or a
8 PEL for asbestos?

9 A During what period?

10 Q During the course of your - your
11 professional experience in the field of industrial
12 health.

13 A Well, there was early on the 5 million -
14 5 million part per cubic foot levels that were
15 established rather informally, later adopted by
16 A.C.G.I.H. and whatnot. None of those were
17 statutory or regulatory levels until OSHA came
18 along. And actually OSHA developed - adopted the
19 1968 A.C.G.I.H. levels for its first list. I hope
20 that was - addressed your question properly.

21 Q Well, yes. It sounds like what you are
22 saying then is that the - these exposure levels for
23 asbestos - whether you want to them call an MAC,
24 TLV, PEL - have changed over time?

25 A They have.

1 Q Okay. But whatever the level at any given
2 period of time, the - the permissible exposure level
3 if you would for asbestos assumes that there is some
4 exposure to asbestos to the working man; isn't that
5 correct?

6 A Potentially some exposure, yes.

7 Q Okay. And again, I think you said that
8 what these levels seek to do is to establish broadly
9 speaking a safe level of exposure?

10 A That is correct, for most people.

11 Q Okay. And that would be ---

12 A For a long ...

13 Q And that would be over an eight-hour
14 working day?

15 A Yes. It's actually predicated upon the
16 consideration of exposure for an eight-hour day,
17 five-day-a-week lifetime exposure. 30 years is
18 normally considered lifetime on average. So, it's
19 for an aggregate exposure through time - every work
20 day throughout the working history.

21 Q I believe you testified that you went to
22 college and medical school. Where was that, Doctor?

23 A The University of Virginia.

24 Q Would you consider that to be a good
25 medical program, sir?

- 1 A Yes, sir.
- 2 Q And you graduated from the University of
3 Virginia Medical School in what year?
- 4 A 1947.
- 5 Q Were you taught anything in either your
6 undergraduate education or in medical school
7 regarding the characteristics of asbestos or
8 potential asbestos health risks?
- 9 A No, sir, not to my recollection.
- 10 Q I believe you testified that you served
11 for a period of time as a doctor in the United
12 States Navy stationed at Portsmouth?
- 13 A That's right. Yes, sir.
- 14 Q Did you acquire any information or were
15 you told anything while in the U. S. Navy regarding
16 the characteristics of asbestos or possible
17 asbestos-related health risks?
- 18 A I do not recall any.
- 19 Q Now, I believe it has been your testimony
20 that you took your second doctorate in industrial
21 health at the Kettering labs of the University of
22 Cincinnati?
- 23 A That is correct.
- 24 Q And you ---
- 25 A Correct. Excuse me.

1 Q And you graduated in 1957 after
2 a three-year program?

3 A Yes, sir.

4 Q Then and since that time, based on your
5 experience in the field, how has Kettering been
6 regarded in terms of the quality of education it has
7 offered in the fields of industrial health?

8 A Well, it's been throughout its history
9 probably the No. 1 center for education, research
10 and the like in occupational health, industrial
11 hygiene and toxicology in the country - probably in
12 the world.

13 Q Were the people who taught there and those
14 who visited to share their experience or teach
15 well-regarded in their fields?

16 A Very highly, yes.

17 Q Can you tell us just a little bit about
18 some of the people who visited Kettering to share
19 their experiences with the - the fellows there such
20 as yourself and where they may have been from?

21 A Well, the leader at the Kettering lab at
22 the University of Cincinnati was Dr. Robert Kehoe,
23 K-e-h-o-e, who was one of the world leaders in the
24 early field of industrial toxicology, occupational
25 health. He was the physician who undertook to

1 resolve the very painful issues relating to the use
2 of tetraethyl lead in gasoline ---

3 Q Right.

4 A --- in the early period of the
5 automobile. And without the work he did, the
6 government would have banned the use of these lead
7 compounds and literally stopped the development of
8 the combustion engine for use in that purpose.

9 He didn't prevent the lead from being
10 toxic, but he learned what the toxicity was, how to
11 control it and set up procedures and testing and so
12 forth and medical monitoring that would preserve the
13 health of workers and preclude the rather horrendous
14 experience they had before there was any control
15 measures.

16 Q Did Dr. Kehoe or anybody else on the
17 faculty at the Kettering labs teach you about or
18 pass on to you any information regarding the
19 characteristics or - of asbestos or asbestos-related
20 health risks?

21 A Could I go back to the prior question
22 first just for a second?

23 Q Certainly.

24 A You had asked me about other people ---

25 Q Uh-huh.

1 A --- and whatnot, and I didn't proceed with
2 that. Dr. Kehoe was vitally interested in
3 developing a cadre of experts in the field of
4 occupational health. And he was very dedicated in
5 his training and made sure all of his other people
6 were. And one of his special attributes or
7 accomplishments was attracting leaders in the field
8 from all over the world, particularly in the United
9 States, to come to the Kettering - and we had
10 Saturday seminars that these leaders in the field
11 would come and tell of their experiences and get
12 acquainted with us. It was during the course of a
13 whole day with dinner and lunch and - and we had the
14 seminars and whatnot. And it gave us a leg up on
15 any other organization in terms of getting us
16 acquainted with the field broadly - of the experts
17 in the field.

18 Q I believe ---

19 A Now -- I'm sorry.

20 Q And just to follow up on that, I believe
21 you testified earlier that Dr. Arthur Vorwald was
22 one of the visiting lecturers?

23 A Yes, sir.

24 Q Have you ever heard of a man named Richard
25 Doll?

1 A Yes.

2 Q Was Richard Doll one of the visiting
3 lecturers?

4 A I can't recall whether he came over here
5 or whether we got to know him in the meetings that
6 Dr. Kehoe insisted we go to and paid the way for it
7 and all of that.

8 Q Dr. Dixon, while at Kettering did any of
9 the faculty or did any of these visiting lecturers
10 share with you any information or provide any
11 specific instruction regarding the characteristics
12 of asbestos or asbestos-related health risks?

13 A I don't recall it at all. And I verified
14 that with my - some of my other group in training at
15 the same time because it was sort of troubling to
16 not be sure of what that experience was; and I have
17 verified it.

18 Q Did any of the faculty at Kettering or any
19 of these visiting lecturers share with you or pass
20 on any suggestion that there was a cancer risk or a
21 carcinogenic potential associated with asbestos?

22 A Absolutely not.

23 Q And I believe you also testified that
24 while you were at Kettering as part of what I think
25 you called your preceptorship program ---

1 A Year.

2 Q --- year ---

3 A Third year, yes.

4 Q --- you actually went into plants in the
5 field as it were.

6 A We did it all through the whole program.
7 I'm sorry. Yes.

8 Q Okay. In your visits to these plants
9 while you were going through your training period at
10 Kettering, did anybody there pass on to you any
11 information regarding the characteristics of
12 asbestos, asbestos-related health risks or possible
13 carcinogenicity associated with asbestos?

14 A No. The principal concerns in those days
15 was silica, silicotuberculosis and coal dust, which
16 was a new phenomenon - coal dust disease at that
17 time. And I never heard of anybody that I can
18 recall even mention asbestos.

19 Q All right. I believe ---

20 A I can't say they didn't, but it was
21 certainly not recalled.

22 Q I believe you testified, Dr. Dixon, that
23 you went to work for American Cyanamid after you
24 graduated from Kettering in '57?

25 A Yes, sir.

1 Q Was asbestos or asbestos-containing
2 insulation used in the various plants or facilities
3 at Cyanamid for which you had responsibility?

4 A I presume that it was. I didn't address
5 the issue specifically, but I presume so.

6 Q In the various occupational health
7 positions that you occupied at Cyanamid, did you
8 see, did you hear or did you have reported to you
9 any claims of asbestos-related injury?

10 A Not that I can recall, no.

11 Q You were asked by Mr. Blanks about an
12 extensive number of industrial hygienists or
13 occupational health physicians who you worked with
14 or knew at Cyanamid.

15 A At Cyanamid?

16 Q At Cyanamid.

17 A Yes, sir.

18 Q I don't want to go through all those names
19 again.

20 You also were asked by Mr. Blanks about an
21 extensive number of individuals you had contacts
22 with in other companies while you worked at
23 Cyanamid.

24 A Yes.

25 Q Industrial health ---

1 A Yes.

2 Q --- physicians, industrial hygienists,
3 those types of folks.

4 A Yes.

5 Q In your interaction with any of those
6 people, industrial health doctors or industrial
7 hygienists within Cyanamid or outside of Cyanamid,
8 did you discuss, did you hear or did you receive any
9 information regarding the characteristics of
10 asbestos?

11 A Not that I can recall at all.

12 Q Asbestos-related health risks?

13 A No.

14 Q Possible cancer risks associated with
15 asbestos?

16 A No.

17 Q You testified earlier I believe that the
18 Cyanamid industrial hygiene program involved what
19 you referred to as the constant surveillance of
20 operations.

21 A Constant?

22 Q (Nodding affirmatively)

23 A I don't know that I used that term. There
24 was a repetitive and frequent - you know, try to
25 keep a current evaluation of it. It wouldn't be

1 constant like every minute of the day, but it was an
2 ongoing, continuing effort.

3 Q What was being surveilled, if you would,
4 or monitored for at the Cyanamid plants?

5 A Any one plant in particular or just
6 generally?

7 Q In general.

8 A Well, whatever agents there were being
9 manufactured or used in processes that were known to
10 be hazardous if - if worker exposure occurred. By
11 in large that would be the correct answer.

12 Q And that would be chemicals?

13 A Largely chemicals. But it was noise and
14 radiation and some other things - dusts, vapors.

15 Q You mentioned earlier that Cyanamid had to
16 have a particular type of program because it had
17 particularly dangerous chemicals that it
18 manufactured or used. Can you share with us what
19 some of those chemicals would have been?

20 A Well, there were a lot of organic
21 compounds. We manufactured at the one plant in
22 Bound Brook, for example, over 900 different
23 chemicals - many - many similar, but differing
24 categories and whatnot. And a large number of them
25 were quite toxic. They were in the organic amino

1 groups and the - the anilines and solvents that were
2 highly hazardous and the like so that -- And the
3 experience had been very bad in the earlier years
4 with fatalities and illness and all because
5 exposures were excessive and people were harmed.

6 Q I believe you testified earlier that
7 Cyanamid made efforts to make sure that workers or
8 people at the plants knew about hazards.

9 A Very definitely.

10 Q Would those be the hazards associated with
11 these same chemicals that you have been talking
12 about?

13 A Yes, any chemical to which a worker might
14 have exposure or a category of chemicals or a class
15 of chemicals or whatnot. There were as most - in
16 most of the chemical companies there were regular,
17 usually weekly, safety meetings that covered
18 physical hazards, chemical hazards, whatever adverse
19 effects that might be encountered by the work force
20 in their particular area of assignment. And this
21 was carried out very intensively and was very
22 religiously subscribed to and it was mandatory to
23 attend and so forth.

24 Q Was the same program of monitoring for
25 chemical risks and other known hazards and

1 disseminating information about those hazards
2 pursued by Celanese when you came there later or
3 not?

4 A You said "monitoring" meaning what?

5 Q Assessing risk associated with chemicals
6 in the work ---

7 A Assessing risk, yes. Yes. Monitoring can
8 be considered a variety of different things. That's
9 why I wasn't quite sure.

10 Q So, this same type of program that you are
11 talking about at Cyanamid would be pursued at
12 Celanese as well?

13 A Yes, although it was less intensive in -
14 at Celanese because we didn't have the magnitude of
15 hazards.

16 Q Dr. Dixon, you testified that you belonged
17 to the American Industrial Hygiene Association, the
18 Industrial Medical Society and a number of other
19 groups.

20 A (Nodding affirmatively)

21 Q Is that correct?

22 A That is correct.

23 Q At any time in the 1940's, the 1950's or
24 the 1960's, from any of the professional
25 organizations that you belonged to, do you recall

1 receiving any information specifically related to
2 the characteristics of asbestos?

3 A I don't. But the - the period would not
4 have included the '40's. It would have included
5 from the mid-'50's on.

6 Q I see. During that same period from any
7 of these industrial hygiene, occupational health
8 groups, did you receive or do you recall receiving
9 any information specific to asbestos health risks or
10 potential carcinogenicity associated with asbestos?

11 A Well, the latter absolutely not; and I
12 don't recall any of the former either.

13 Q Let me shift to other professional groups
14 or trade associations that either you or your
15 employers may have had dealings with. And I believe
16 you have talked about the American Public Health
17 Association. You have been asked about the
18 Industrial Hygiene Foundation, the National Safety
19 Council. I believe you have testified about the
20 Organization of Resource Counselors. I believe you
21 have mentioned the Manufacturing Chemists
22 Association, what later became known as the Chemical
23 Manufacturers Association.

24 A Yes.

25 Q In any of your dealings with those groups,

1 do you recall receiving any information from those
2 groups or people employed by them regarding the
3 characteristics of asbestos?

4 A Up until when?

5 Q Up until in the 1960's let's say.

6 A Oh, absolutely not. No. I'm sorry. I
7 forgot you had already specified the date.

8 Q During that same period, Dr. Dixon, do you
9 recall receiving any information from those groups
10 regarding potential asbestos health hazards or any
11 cancer risk associated with asbestos exposure?

12 A No, I do not.

13 Q You have been asked some questions earlier
14 about people you knew in the petroleum or the oil
15 industry. Do you remember those questions?

16 A More or less, yes.

17 Q These were individuals who you had
18 professional dealings with from time to time.

19 A Yes, sir.

20 Q I believe you mentioned a Dr. Hammond and
21 a Dr. Weaver, for example.

22 A Yes. Yes, sir. That's true.

23 MR. BLANKS: Hang on.

24 MR. HUTCHINS: Pardon?

25 MR. BLANKS: I think Mr. Hammond

1 was - was not in fact a doctor.

2 MR. HUTCHINS: Okay.

3 A He was not a physician.

4 MR. BLANKS: James Hammond.

5 A James Hammond - he was not a physician.

6 He was the Exxon head of industrial hygiene.

7

8 (By Mr. Hutchins)

9 Q And I believe that you testified that
10 these individuals generally were open and inclined
11 to share industrial hygiene information?

12 A Oh, we all were, yes.

13 Q Did any of the people who you knew
14 employed by the petroleum or the oil industry share
15 with you as you recall any information specific to
16 asbestos, asbestos-related health risks or possible
17 cancer risks associated with asbestos?

18 A No, not until after the New York Academy
19 of Sciences meeting when it became the subject of
20 inquiry, but not information.

21 Q Did anybody in the petroleum industry or
22 outside the petroleum industry ever share with you
23 any report on industrial hygiene prepared by a man
24 named Roy Bonsib?

25 A No, I don't know that name.

1 Q Have you ever seen that report?

2 A "Bonsim"?

3 Q Bonsib - B-o-n-s-i-b.

4 A No. I think I have heard of it; but I -
5 I - I was not aware of it. I have only heard that
6 name just quite recently. I don't know.

7 Q Let me ask basically the same questions
8 about your employment with the Bell System and
9 Western Electric.

10 Was asbestos or asbestos-containing
11 material used in the facilities of the Bell System
12 or Western Electric?

13 A Well, there was asbestos in the - some of
14 the undersea cable operations. It was a heavy,
15 gunky mess - a mixture of oily resinous material and
16 rope-like that was used in a sense to - in one of
17 the stages of wrapping multiple layers of it. It
18 would not emit asbestos - respirable asbestos, of
19 course. And it was put on in this wet, gunky,
20 sticky state. And then the whole thing was heat
21 cured after subsequent layers of coatings had been
22 applied to - coverings had been applied to it. It
23 had to be able to withstand deep sea life for
24 years. So, it was very heavily constructed.

25 Q In your employment as an occupational

1 health doctor with the Bell System and Western
2 Electric, do you recall receiving any information,
3 hearing of or seeing any claims of asbestos-related
4 injury at the Bell System or Western Electric?

5 A I don't recall it, no.

6 Q Do you recall receiving any information
7 from the Bell System or Western Electric or people
8 working there regarding asbestos, asbestos health
9 risks or any cancer risk associated with asbestos?

10 A No, I don't.

11 Q You were asked some questions earlier
12 regarding a book authored by a man named Hueper. Do
13 you remember those questions?

14 A Yes, I know we discussed Hueper here
15 today.

16 Q And I think you indicated that at some
17 point you obtained a copy of a book written by
18 Hueper.

19 A Well, it's a tabulation, yes.

20 Q Okay. Do you recall when you acquired
21 that book, Dr. Dixon?

22 A Sometime probably in the mid-'70's - mid
23 to late '70's.

24 Q Would you have been aware of that book or
25 had a copy to it - of it before that time?

1 A No.

2 Q I believe you gave testimony earlier that
3 you had heard of Hueper prior to that time?

4 A Yes. That is correct.

5 Q And I believe you gave ---

6 A I believe it was prior to that. Yeah.
7 I'm sure it had to be, yes.

8 Q And I believe you had given testimony that
9 what he had published was not considered to be
10 authoritative?

11 A Well, suspect certainly. He grabbed any
12 fact and put them in these tables. It was one of
13 these books that's very long, for example, so that
14 there were charts and many columns of things and
15 abbreviations and whatnot. And he had it all coded
16 in such a manner that you could get a lot of data on
17 there. And he would indicate things that might be
18 suspect as such or indicate a possibility, but never
19 with respect to asbestos that it was carcinogenic,
20 for example.

21 Q In response to a question from counsel
22 earlier you made reference to a 1960 study on
23 mesothelioma published by J. C. Wagner.

24 A That is correct.

25 Q Were you aware of Dr. Wagner's study in

1 1960?

2 A No, sir.

3 Q Is that something you have become aware of
4 since you have gone into consulting work?

5 A Well, it was much, much later than that
6 before I did because I wasn't involved in any
7 concerns with asbestos in the earlier period or
8 whatever.

9 Q When would you say would be the first time
10 that you heard a report or a mention that there
11 could be a cancer risk, whether mesothelioma or
12 otherwise, associated with asbestos exposure?

13 A I suppose really the Selikoff papers in
14 the mid-'60's. But that again was preliminary
15 information. It wasn't a definitive answer.

16 Q When Dr. Selikoff made his report
17 regarding asbestos and cancer, was - did that
18 coincide with or did that differ from what you had
19 been taught and what you believed in the field of
20 occupational health?

21 A It was totally different, if I understood
22 the question correctly.

23 Q What Dr. Selikoff had to say regarding
24 asbestos and cancer, did that ---

25 A I missed the first couple of words there.

1 I'm sorry.

2 Q All right. I will try it again. What
3 Dr. Selikoff reported regarding asbestos and cancer,
4 did the health consequences that he spoke of track
5 or differ from what you had seen in the work forces
6 you had been responsible for as an occupational
7 health doctor?

8 A Well, it was totally different.

9 Q Prior to Dr. Selikoff's report had you
10 ever personally seen or been made aware of any case
11 of occupationally related cancer said to be
12 associated with asbestos exposure?

13 A No, absolutely not.

14 Q I don't want to belabor the point. I
15 think you indicated earlier that there was
16 wide-spread skepticism and certainly skepticism or
17 doubt on your part regarding what Dr. Selikoff had
18 to say in his 1964 presentation?

19 A That is correct.

20 Q Why was there skepticism, Dr. Dixon?

21 A Well, it was something that was totally
22 different from all that we might have known about
23 asbestos. I didn't know much about it at that
24 point, but the experience in this country had been
25 that we didn't have a problem with it. I guess we

1 all knew that it was considered a - almost a
2 nuisance-type dust that might if exposures got very
3 high create the inflammatory or fibrogenic disease
4 that had become known by that time I guess as
5 asbestosis. But beyond that, nothing.

6 Q I believe you indicated in response to
7 earlier questions that Dr. Selikoff's findings were
8 so unusual or so in variance with experience that -
9 that verification and further study was required?

10 A Absolutely.

11 Q When did you come to believe or accept
12 that there was some risk of cancer of whatever form
13 associated with asbestos exposure?

14 A Well, you had to assume some little
15 element of concern from a report of that sort. But
16 it wasn't until in the '70's and maybe even the late
17 '70's before we accepted that - that there was
18 verification this was true; that it occurred only
19 under unusual - what were considered unusual
20 exposure conditions, et cetera.

21 But there was verification that it could
22 exist, and gradually it became peer reviewed and
23 ultimately most physicians who were knowledgeable
24 about occupational type diseases accepted it. And,
25 of course, OSHA then when it came along mandated

1 acceptance of - at least the principles of
2 protection. So ...

3 Q Now, you mentioned that OSHA mandated the
4 principles of - of protection associated with
5 asbestos. I'm not asking you for precise details,
6 but did you have information while you were at
7 Celanese regarding whether or not Celanese's plants
8 complied with those OSHA regulations?

9 A Oh, you mean after the regulations came
10 out?

11 Q That's right.

12 A Yes, they - they did.

13 Q Okay. And that was information reported
14 to you at that time?

15 A Yes.

16 Q All right.

17 A After the act became effective.

18 Q I think you just ---

19 A I mean after the regulation on asbestos
20 became effective, not the OSHA act.

21 Q I see. I believe that you just said that
22 it was sometime in the 1970's where a consensus
23 emerged that there was some - indeed some cancer
24 risk associated with asbestos exposure?

25 A That is correct.

1 Q At least based on what you knew and the
2 people who you dealt with?

3 A Yes.

4 Q Were all questions settled for all time
5 regarding asbestos ---

6 A No.

7 Q --- and cancer risk even then?

8 A No, nor have they still.

9 Q Is that still an evolving and ongoing ---

10 A Yes.

11 Q --- process?

12 A Sure. But the basics of that were, of
13 course, established.

14 Q You have been asked questions about air
15 sampling or air monitoring. Do you recall those
16 questions, Doctor?

17 A Some of them, yeah. I'm not sure which
18 ones you are referring to.

19 Q Has the technology or the technique
20 associated with air sampling and air monitoring
21 remained static over time or has that changed based
22 on your experience, Doctor?

23 A It has changed quite dramatically really.
24 The early methods -- Or should I ...

25 Q Sure.

1 A The early methods were by today's
2 methodology, standards and whatnot quite crude and
3 ineffective. We have optical microscopy and related
4 type things today. We have got all kinds of new,
5 fancy equipment - electron microscopy and better
6 sampling, collection equipment. And, so, there is a
7 substantial improvement in - in the types of both
8 sampling and analytical testing that goes on.

9 Q Based on your experience at the facilities
10 where you worked or where you had responsibilities,
11 was air sampling something that was commonly done in
12 the late 1950's or the early 1960's?

13 A Essentially not. It wasn't done at all to
14 my knowledge anywhere that way.

15 Q Was it ---

16 A In the companies and the - the industry
17 that I knew.

18 Q Would the same be true in the late 1960's?

19 A Yes.

20 Q If air sampling was not done, what
21 techniques would be employed by professionals to
22 assess exposures and make judgments about potential
23 risk?

24 A Say it once more.

25 Q Certainly. If air sampling was not

1 commonly done during this period we have just been
2 talking about ---

3 A Yeah.

4 Q --- what techniques would be employed by
5 professionals to make judgments about exposures or
6 potential risks?

7 A For asbestos?

8 Q Asbestos or any other substance.

9 A Or any other substance. I'm still having
10 trouble with the question. By the time you get to
11 the end of it, I'm forgetting the first part.

12 Q Okay.

13 A It's my fault. Forgive me.

14 Q In the late 1950's throughout the 1960's
15 what techniques would commonly be used or relied
16 upon by health professionals to assess exposures in
17 a plant environment?

18 A To anything?

19 Q To anything.

20 A Well, primarily assuming it was a physical
21 material or a gas or whatnot, there were collection
22 devices by which the air would be drawn through
23 them. And any substance - a particular substance,
24 for example, would be caught by filters - filters
25 and the like.

1 Liquids, mists, gases would be caught in -
2 more often in a liquid medium. And then after
3 sampling on standardized formats of time and what
4 volume of material - air had been sucked through
5 them, one would analyze the amount of material in
6 the sample and then could calculate what the air
7 concentration per unit of air would be from that
8 analysis. Is that ---

9 Q Well, those are certainly techniques,
10 yes. Thank you.

11 Were those -- Again, I believe you told me
12 earlier that that type of air sampling would not
13 have been routinely done in the '50's or the 1960's?

14 A No, it was not.

15 Q Was there some other approved or generally
16 accepted technique or a set of techniques for
17 assessing exposures during that time period?

18 A Not really. One, of course, would
19 visually inspect the operations as we did. The
20 basic -- The basic thrust of industrial hygiene in
21 general in the early days was actually inspection,
22 was to see if the equipment was operating correctly,
23 were there leaks, was there opportunity for spillage
24 or air contamination; look to see what the work
25 practices were so that the workers themselves were

1 doing it in a safe manner, and related type things
2 to keep exposure down to a reasonable minimum.

3 And I think that would be the principal
4 way because actually air sampling or analysis of
5 sampling was very difficult. It was costly. It was
6 time consuming. It was inaccurate and essentially
7 involved wet-type chemical bench analyses of the
8 results, which compared to the current methods of
9 quick, easy electronic measurements of things was
10 something that could avoid as much as you could
11 (sic). So ...

12 Q Was observation and the use of
13 professional judgment a common practice in
14 industrial hygiene at that time, or would it have
15 not been common?

16 A It was the -- It was the most common
17 thing, yes.

18 Q Would that be true up, say, through the
19 late 1960's of all of the various companies where
20 you worked?

21 A Yes. There were exceptions of that to
22 certain specific problem chemicals, for example,
23 lead. And there were methods for analyzing that and
24 some of the very highly toxic solvents and organic
25 chemicals, which you could analyze chemically pretty

1 easily.

2 But by in large more of it was the - by
3 observation and following the precepts I mentioned
4 earlier about seeing that it looked safe, if the
5 equipment was proper and the workers were doing safe
6 work practices, et cetera.

7 Q Let me move on here and try to finish.
8 Let's move on to your employment as the corporate
9 medical director at Celanese, Dr. Dixon.

10 A Yes, sir.

11 Q You gave some testimony regarding a
12 substance called betapropiolactone. Do you remember
13 that?

14 A Betapropiolactone, yes.

15 THE WITNESS: Do you want the
16 spelling?

17 THE REPORTER: No, sir.

18 MR. HUTCHINS: He knows how to
19 spell betapropiolactone.

20

21 (By Mr. Hutchins)

22 Q When did Celanese become interested in
23 looking at betapropiolactone as you remember,
24 Doctor?

25 A When did they do what?

1 Q When did Celanese start looking at the
2 possible hazards associated with betapropiolactone?

3 A It was prior to my joining Celanese. I
4 know the history was that betapropiolactone,
5 although a very simple compound, was extraordinarily
6 active - a reactive chemical; and it reacted with
7 tissues, too. If a worker got some of the normal
8 concentration of material on the skin and didn't
9 wash it off very, very promptly, later that day or
10 that night they would find an ulcerated lesion that
11 had evolved and it eroded through the skin. And
12 they were very hard to heal and whatnot.

13 The very fact that it was so reactive
14 stimulated our company and the company for whom we
15 made this product, which happened to be Goodrich -
16 or Goodyear - no. One of the tire companies. I
17 have forgotten which one it was right now. I will
18 think of it in a second - to consider that this was
19 a remarkable phenomenon and that it might indicate
20 some other potential for harm.

21 Therefore, they charted a study that was
22 undertaken at New York University to determine the
23 nature of these burns and to see did it have a - a
24 carcinogenic potential because highly reactive
25 compounds were the kind of ones that would be most

1 suspected as being that way.

2 And to everybody's chagrin - and they had
3 just gotten the results of this when I came to the
4 company. It was very highly carcinogenic in mice
5 and rats and whatnot in animal studies.

6 Q Now, this was a chemical; correct?

7 A It's a chemical, yes.

8 Q All right. And betapropiolactone was a
9 chemical used by Celanese in one of its own
10 processes?

11 A Well, we manufactured it for use by the
12 tire companies and some other people. The
13 government was very active and interested in it
14 because it was very useful in the sterilization of
15 bacteria and whatnot, and the chemical warfare
16 people were interested in it so that -- But the
17 basic product was made for a rubber additive.

18 Q And if I understood you correctly,
19 Celanese sponsored a study - an animal study into
20 possible cancer risks associated with that chemical?

21 A Yes. Among other hazards, yes.

22 Q And the results of that study were
23 reported in toto directly back to Celanese?

24 A And the tire company, yes.

25 Q Okay. And I believe you testified in

1 response to an earlier question that based on a
2 conclusion that betapropiolactone could cause
3 cancer, that Celanese chose to report that
4 information to OSHA?

5 A That is right.

6 Q What did OSHA do with that information ---

7 A It was very ...

8 Q --- when - when Celanese reported it?

9 A Excuse me. This was very early in the
10 history of OSHA. When they had a hearing on
11 establishing a carcinogen standard, there was one in
12 which would include those known industrial materials
13 which should be classified as potentially
14 carcinogenic.

15 And the initial thrust of that was to cite
16 12 compounds as the first list. And the people in
17 companies, government, academia and whatnot who had
18 data on these 12 compounds presented their findings
19 in support of that at this meeting of OSHA. It was
20 a carcinogen standard meeting.

21 And in my company we decided that this
22 information should be presented to OSHA for
23 consideration of including that material on the list
24 of human carcinogen - known - chemicals with -
25 industrial chemicals with human cancer causing

1 potential.

2 I actually presented that data at the
3 meeting and recommended that it be adopted for
4 addition to the list. So, it became the 13th item
5 on the initial carcinogen list - so as to make
6 something that everybody knew about.

7 Q Doctor, when you came to Celanese did
8 Dr. A. G. Cranch or Dr. Osterritter ---

9 A Dr. Osterritter, yes.

10 Q --- pass on to you in any way any
11 information regarding asbestos, asbestos health
12 hazards or any carcinogenic potential associated
13 with asbestos?

14 A Certainly not to my recollection.

15 Q And throughout the entirety of your career
16 as the corporate medical director at Celanese, did
17 you receive information, hear of or know of any
18 claims involving a Celanese employee said to be
19 injured because of asbestos to exposure - exposure
20 to asbestos?

21 A Excuse me. No, I did not.

22 Q Asbestosis?

23 A No, sir.

24 Q Did you receive any claims while you were
25 employed by Celanese that a Celanese employee had

1 incurred some sort of cancer said to be related to
2 asbestos exposure?

3 A No, I did not.

4 Q Would that type of information regarding
5 occupational illness be reported to you as the
6 corporate medical director?

7 A Yes, it should have been.

8 Q All right. And was it typically or was it
9 not?

10 A It was typically, yes. We received
11 monthly reports from each of the divisions of the
12 corporation compiling experiences in essential areas
13 throughout their plants.

14 Q I believe you have testified that over the
15 course of your career you had reason to visit many
16 plants or facilities operated by many different
17 companies.

18 A Yes, sir.

19 Q How would you rate the cleanliness or the
20 housekeeping practices followed at Celanese's plants
21 against all the other company plants that you
22 visited in the course of your career?

23 A I don't think I ever saw a company that
24 maintained - maintained its properties better,
25 maintained good housekeeping, cleanliness. And they

1 were immaculate, even the old plants. It was a
2 startling sight to behold. It was so profoundly
3 good.

4 Q You visited each of the Celanese
5 facilities from time to time?

6 A Every facility, yes. Most of them every
7 year at least once.

8 Q Would that include the Bishop plant?

9 A Yes, it did.

10 Q Did you visit those plants in the course
11 of their ordinary operations, or was this some sort
12 of special tour arranged just for you?

13 A Well, normally during their regular
14 operating conditions and whatnot.

15 Q Did you ever notice in the course of those
16 visits dust clouds or excessive amounts of dust from
17 whatever source being generated at the facilities?

18 A No, I did not. There would be vapor
19 clouds sometimes of moisture and whatnot and
20 inversion conditions like you would get with a
21 chimney at home; but nothing other than that.

22 Q Would clouds of dust based on your
23 professional training and experience cause you to at
24 least look into the situation had you seen those
25 types of conditions?

1 A Oh, absolutely. That would be one of the
2 objectives of the industrial hygiene surveys and
3 observations we would make in the plants. Any
4 untoward operating condition like that would be
5 immediately red flagged.

6 Q Sir, at any time during your career at
7 Celanese, using your best professional judgment and
8 your experience and the knowledge of the conditions
9 in Celanese's plants, did you ever form an actual
10 subjective belief that any Celanese employee stood
11 at a potential risk of harm because of asbestos
12 exposure?

13 A I did not.

14 Q Did you ever form any actual subjective
15 belief that any Celanese employee stood at a
16 potential risk of incurring asbestosis?

17 A You said objective or -- Subjective I
18 believe was the word you used.

19 Q Well, either.

20 A No.

21 Q Objectively or subjectively ---

22 A Neither one, no.

23 Q Objectively or subjectively based on what
24 you saw in our plants and your professional judgment
25 and experience ---

1 A That is correct.

2 Q --- did you form any belief that any
3 Celanese employee stood at a potential risk of any
4 asbestos-related cancer?

5 A No, I did not.

6 Q One last question, Doctor. You indicated
7 that you knew Dr. Selikoff.

8 A Yes.

9 Q Subsequent to 1964 I believe you indicated
10 that you had dealings with Dr. Selikoff.

11 A Subsequent to?

12 Q Right.

13 A Yes. Yes. Not before but after; right.

14 Q And I believe it was your testimony that
15 Dr. Selikoff appointed you to be a director or be on
16 the board of some particular organization?

17 A Yes.

18 Q And what was that organization that ---

19 A That was the ERC or Education Resource
20 Center of the - the four major medical schools and
21 the Hunter College of Women's nursing school into a
22 group that collectively had occupational health
23 training, et cetera. This was a -- The ERC had
24 probably - there were nine or ten of them created
25 around the country funded by NIOSH to have regional

1 opportunity and - to be able to avail people in the
2 vicinity of these areas that come to have training
3 in occupational health, industrial hygiene and
4 related subjects in a convenient manner and
5 whatnot. Some other missions, too.

6 But he appointed me to the board of -- He
7 was the -- He happened to be chairman of the - from
8 the Mt. Sinai school. And he appointed me to the
9 board of directors sometime I guess in the early -
10 mid-'70's - probably the mid-'70's.

11 Q Doctor, did you -- Was Dr. Selikoff a
12 professional colleague, or did you consider him to
13 be a friend?

14 A Well, neither in the beginning. I - I - I
15 was apprehensive about what his motives were and how
16 honest he might be and that sort of thing. But in
17 time I came to respect him and to ultimately become
18 good friends with him really.

19 Q And did you maintain contact ---

20 A He moderated considerably as time went
21 along, but ...

22 Q Did you maintain contact with Dr. Selikoff
23 up until his death?

24 A Yes, more or less in the last several
25 years. I didn't have frequent contact with him,

1 but - being away from New York. I remained on his
2 board until I left up there. But we would see each
3 other at meetings. Several times we would bump into
4 each other on airplanes. And one time over in
5 Yugoslavia we met in the late '70's or early '80's
6 possibly, just before I moved down here - I came
7 back here. And we were quite friendly.

8 MR. HUTCHINS: Doctor, I think
9 those are all the questions I have
10 for you. One moment, please.

11 I think those are all the
12 questions I have for you at this
13 time, Doctor. I appreciate your time
14 and your patience.

15 THE WITNESS: Thank you.

16 MR. BLANKS: I need a few
17 minutes.

18 THE VIDEOGRAPHER: We are off
19 the record at 4:08.

20
21 (AT THIS TIME A BRIEF RECESS WAS
22 TAKEN, AND THE PROCEEDINGS THEREAFTER
23 RESUMED AS FOLLOWS:)

24
25 THE VIDEOGRAPHER: We are on the

1 record at 4:19.

2
3 RE-EXAMINATION BY MR. BLANKS:

4 Q Okay, Doctor, trying to wrap up. You were
5 asked a lot of questions about what people in the
6 medical and scientific community knew or believed
7 about asbestos and carcinogenicity and so on. But
8 wouldn't you agree that probably the best evidence
9 of what was known out there in the occupational --
10 Wouldn't you agree, Doctor, that what was known in
11 the medical - in the occupational medicine field and
12 in the industrial hygiene field back in the '60's
13 and the '50's and the '40's and even in the '30's
14 is going to be best reflected in the - the written
15 word from that time; that is, what the - the authors
16 and the writers of that time were saying in their
17 publications?

18 A Back in the '30's and the '40's?

19 Q As far back as you go that's the best
20 evidence we have, isn't it?

21 A It was something that never drew our
22 attention, of course, because we didn't feel that
23 there was any problem in this country. And,
24 therefore, it was not a matter that we looked at or
25 studied or whatnot until at a later point when

1 really after Selikoff made his presentation and -
2 and subsequently. I was totally oblivious to
3 anything that had been published about asbestos
4 prior to that time. There was some, but it was
5 rather limited.

6 Q Okay. But my point was: If we want to
7 know what - what information was out there for
8 doctors or hygienists to - to work with, we would
9 look to the - to the professional journals and the
10 medical textbooks ---

11 A You don't look at everything. You look at
12 those things that you think are problems. And I had
13 no occasion to do so as most did not at that point.
14 And I didn't. I know that history now in
15 retrospect, but I did not know it; had no occasion
16 to even look to find it. So ...

17 Q I'm sorry. And I didn't mean to ---

18 A Oh, no. I'm just saying that ...

19 Q --- to be critical of you.

20 A No. No. I'm not -- I'm just
21 expressing that ---

22 Q Okay.

23 A --- as an answer.

24 Q And how - how did Celanese go about
25 assuring that its boilermakers and its pipefitters

1 and maintenance workers did not have asbestos
2 exposures above the MAC or the TLV in the years
3 before you got there?

4 A In the years before I got there?

5 Q Yes, sir.

6 A I don't know what happened in the years
7 before I got there.

8 Q And how did Celanese assure that its
9 boilermakers and pipefitters and maintenance workers
10 did not have asbestos exposures above the TLV or the
11 MAC after you began there in 1965?

12 A Well, our observation of the limited work,
13 the short duration of particular projects that were
14 undertaken like a repair of one small area or
15 something and then the replacement of it was not
16 thought to - by us at least and most people in a
17 comparable state of knowledge - to be detrimental.
18 And I still think the same thing.

19 Q Okay.

20 A But we would test today in addition to
21 observing and knowing what was being done. Or we
22 could test and do some. You have to do some.

23 Q In your -- In your professional lifetime
24 have you ever done air sampling for asbestos?

25 A Me?

1 Q Yes, sir.

2 A Well, I have rarely done air sampling
3 myself except to help when it was being done because
4 that wasn't my role. I know all the -- I'm familiar
5 with it. I'm qualified in it. But I didn't
6 actually do the work myself. I would be there when
7 it was being done quite often, and sometimes I would
8 help the people doing it. But that was not my role
9 to do the actual testing myself, nor the analysis
10 either.

11 Q Isn't it true if we - if we look back to
12 the pesticide studies that you worked on in your
13 Public Health Service years that, in fact, for that
14 study to - to accomplish its purpose, you doctors
15 really needed to - to find let's say high exposures
16 in order to have detectable consequences from which
17 to promulgate safe exposure levels?

18 A Say that all over. I couldn't follow
19 that. Excuse me.

20 Q I said your - your pesticide study, in
21 order to - to have any useful results really was
22 dependent on there being shall we say excessive
23 exposures so that you could observe the level at
24 which symptoms appeared?

25 A Well, not necessarily. We could observe

1 lower levels to see if they did induce measurable
2 responses. That would be the primary thing. If
3 there were excess exposures, we used that
4 information as an adjunctive basis for having a
5 better understanding of what these materials could
6 do. We had a lot of knowledge of that, of course,
7 anyhow from the German experience in World War II.

8 We had access to all of that from the
9 military. So, we weren't looking for worst case
10 scenarios. We were looking for normal type
11 scenarios and to see -- You forget perhaps what the
12 objective was. This was not for industrial exposure
13 potential. It was really for use on - in population
14 groups who were exposed to insect vectors of disease
15 in foreign countries by in large.

16 The problem arose because we were using -
17 the government was using these things and
18 recommending these things to other countries in
19 disease eradication. Malaria was the biggest single
20 thing. That was the greatest killer in the world of
21 anything we have ever had.

22 And, so, people brought up the fact "Well,
23 what's the hazard of the material?" And we didn't
24 really know. So, we were charged -- The CDC was
25 charged with trying to be sure that what we were

1 recommending was safe; not what the worst case
2 situation was, but what the normal usage might
3 induce in the way of harm.

4 But it inevitably had to be involved in
5 actual exposure to the population because you can't
6 spray a population without them being exposed.

7 Q Okay.

8 A Do you know what I'm saying?

9 Q Yes, sir. In the -- In the mid-'60's when
10 you went to Celanese, what was Celanese doing then
11 to - to determine what the frequency of exposures to
12 asbestos was among its boilermakers and its
13 pipefitters and its maintenance people?

14 A Nothing other than observation as we did
15 with our walk-through industrial hygiene surveys to
16 see if the practices, the equipment, the worker
17 practices themselves and so forth was realistic for
18 what we thought they ought to be doing. It would be
19 true for any of the dust diseases or other diseases
20 for that matter ---

21 Q Do you know of any ...

22 A --- for which there was not an established
23 known - widely known hazard as such; and we didn't
24 think there was.

25 Q Do - do you know of any time motion

1 studies or other surveys of Celanese maintenance
2 workers and boilermakers and such to show really how
3 much time they spent involved with - with asbestos
4 insulation?

5 A I can't tell you that at this point. But
6 I know this was something that was looked at. It
7 was sporadic and isolated to usually small areas.
8 If it had been -- It was on existing equipment by in
9 large. They weren't doing the installation of
10 insulation themselves and so forth on basic
11 equipment. They were doing repair work.

12 If something went wrong with the equipment
13 or during maintenance turnarounds, they would have
14 to remove a square of asbestos to get to a fitting
15 or a joint or somewhere there was a leak or
16 something of the sort so that the potential -- Just
17 like you were talking about taking the asbestos and
18 breaking it apart and milling it and all those
19 things, the quantity of it was small. It was of
20 short duration; totally unlike the kinds of exposure
21 people got in mines, mills, shipyards and all where
22 it was a continuous high level exposure day in and
23 day out.

24 It would be short term, limited duration,
25 limited potential for exposures so that we didn't

1 have any real substantive reason - knowledge at that
2 time to do any specific testing. And testing was
3 very difficult - very, very difficult.

4 Q And if a man in his job - if his job was
5 to do repair work of boilers and pipes and such
6 where that involved daily contact with the
7 insulating materials, then your assumptions would
8 not be correct, would they?

9 A They wouldn't. But in - in reality that
10 was what they were doing. Boilermakers, for
11 example - our employees didn't have a great deal of
12 potential for exposure there. If there was an
13 installation job, this was done by the contract
14 maintenance people or outside companies would come
15 in and do that sort of thing. Our exposure
16 potentially would be very low.

17 Q And it is your belief that Celanese did
18 not have its own in-plant, in-house insulators?

19 A Some. Probably they were contract
20 employees for the more - for the most part. We did
21 have some of our own boilermaker and - and people of
22 that ilk on tap. But most of them were not our
23 actual Celanese employees. You know, the chemical
24 company used -- Most of its maintenance work,
25 custodial work and so forth was done by outside

1 contractors. And it was the outside contractor's
2 job - management to be sure they did the work safely
3 for their employees.

4 It was a cooperative review. But there
5 wasn't much of it as far as we -- We weren't
6 impressed that there was a lot of it at any point.

7 Q Can you point us, Dr. Dixon, to any ---

8 A I'm sorry?

9 Q Can you direct us or recall any written
10 evidence or reports that - that tell us that the
11 maintenance workers at the Bishop plant did not have
12 asbestos exposures above the MAC's?

13 A Above the what?

14 Q Above the MAC's and the TLV's.

15 A Well, I don't guess there were TLV's at
16 that time. They were MAC's. And they didn't have
17 the guidelines - the A.C.G.I.H. things until the
18 late '60's. It was assumed based on what little we
19 knew about it that the - the sense about asbestos as
20 opposed to these other dusts like silica, coal dust
21 and some other known toxic dusts did not require
22 this in - at -- Normal operations as we had
23 experienced it in this country did not result in
24 exposures excessive to that, nor did we see
25 instances of the disease - any disease effect. It

1 was very rare for asbestosis, for example, to be
2 found in this country in the early days. It was not
3 until way after World War II.

4 Q You don't have any - never saw any written
5 record to show what the measured dust exposures of
6 Celanese maintenance workers were, did you?

7 A In the days prior to ---

8 Q Before OSHA. Before 1972.

9 A Well, there might have been a little bit
10 of it in anticipation of the - of OSHA coming along
11 by the people who did testing. But I -- I don't
12 know that history.

13 Q Okay.

14 A I mean I don't recall at this point what
15 that history was.

16 Q You mentioned Dr. Richard Doll as someone
17 that you had met in connection with your Kettering
18 studies I believe.

19 A Yes.

20 Q Dr. Doll was a respected researcher ---

21 A Indeed.

22 Q --- and a fairly authoritative medical
23 author ---

24 A That is right.

25 Q --- in the - in the mid-1950's?

1 A Yes.

2 Q Which would have been when you ---

3 A It would be in the late '50's, yes, sir.

4 Q Okay. Can you tell us the other
5 individuals that were in your class, the other four
6 folks?

7 A Well, there were five in addition to me.
8 There was Dr. Carl Zenz who has been in Wisconsin
9 most of his career. He's the author of the
10 principal textbook - several editions of
11 Occupational Medicine.

12 There was Dr. Bert Dinman who was a
13 professor. After years of experience in du Pont and
14 some other companies and whatnot became a professor
15 at the University of Michigan and ended his career
16 as medical director of ALCOA. He's still living and
17 still works on the emeritus staff at the University
18 of Pittsburgh.

19 There was one person named Al - Alvin
20 Davis who defected from the field and entered other
21 aspects of public health.

22 And there was a -- Who am I forgetting?
23 Oh, Dr. John Peterson who was from the Air Force.
24 And he went back to the Air Force by - as was
25 required for being sponsored at the university for

1 many years. And then after he retired he went to
2 ITT at one of their big plants out in California
3 until retirement time. I think he's still living.
4 I talked to him a few months ago.

5 Q I ---

6 A So, it was a pretty stellar group by the
7 way except for Dr. Davis. We were all Presidents of
8 this and chairmen of that and a director of this and
9 on the national committees and many things that
10 have - have evidence of it. We were quite proud of
11 our class.

12 Q Would - would I be right that you
13 regularly read your industrial hygiene journals and
14 your medical journals, or at least ---

15 A As best you can. You end up scanning
16 them and like scanning those lists and whatnot and
17 reading those things that were applicable to your
18 needs at the time.

19 Q Yes, sir.

20 A You can't read everything. At times you
21 missed important things because you weren't
22 interested in it or had no reason to be; but then
23 you would go back and pick it up later if you do.

24 Q Isn't it possible, Dr. Dixon, that you
25 have, in fact, forgotten some of the things you

1 learned about asbestos and asbestos hazards over the
2 years?

3 A Me forget? I'm sure that's true. That's
4 a never-ending problem.

5 Q If we talk about a material - well, like
6 the asbestos -- Sir?

7 A Excuse me. Talking about forgetting made
8 me just remember. Jan Lieben was the Pennsylvania
9 Health Department physician who adopted - had the
10 A.C.G.I.H. standards adopted statutorily in the
11 State of Pennsylvania against the wishes of
12 everybody else. I had known him a long time because
13 he worked for Cyanamid during the early period that
14 I was in the company. So ...

15 Q Oh, thank you.

16 A I'm sorry. It's just ---

17 MR. HUTCHINS: It doesn't seem
18 he forgets much.

19 THE WITNESS: What?

20 MR. HUTCHINS: It doesn't seem
21 that you forget much.

22 THE WITNESS: No. But you can't
23 remember a lot of it right off the
24 top of your head sometimes. And then
25 you do forget.

1 Q Talking about this evolution of - of
2 medical knowledge and scientific knowledge, if we -
3 let's posit a - the question of a carcinogen or - or
4 leave the cancer out of it and just a - a
5 contaminant, a potentially toxic material. I
6 suppose in the beginning absence some - well, maybe
7 just in the beginning your first evidence causes you
8 to have some suspicion that a material may be
9 harmful and there's a continuum along there where
10 maybe your next state of knowledge would be that
11 it's a possible toxin. Is that reasonable so far?

12 A You mean does that possibility exist?

13 Q Well, I mean is this -- How - how you
14 approach the problems of diagnosis and - and
15 causation and control of - of hazards ---

16 A Well, what's the question?

17 Q Well, I'm - I'm building up to it.

18 A Oh, I'm sorry.

19 Q All right. You spoke that there was an
20 evolution of knowledge, and I suppose it would begin
21 with the suspicion that a particular material could
22 be harmful; right?

23 A That's right.

24 Q And then maybe there's some case reports
25 and some evidence and the material might come to be

1 suspected as harmful.

2 A (Nodding affirmatively)

3 Q And then there is a - perhaps the point
4 where it has come to - where it's believed to be
5 probably a harmful material.

6 A (Nodding affirmatively)

7 Q And - and perhaps with later evidence - I
8 don't know how much - it's thought to be harmful to
9 a medical certainty. Does this pretty well describe
10 the way things worked?

11 A I see what you are saying, the evolution
12 of it. Yes.

13 Q Okay. At what point along this continuum
14 of increasing knowledge or confidence is it
15 appropriate for the occupational physician and the
16 industrial hygienist to begin to take precautionary
17 measures to control and prevent exposures?

18 A Well, it's at a point where you are
19 reasonably convinced of a high probability that an
20 adverse effect can be caused; and you've assured
21 yourself that it's a realistic - reasonably
22 realistic thing. Usually you get advice and
23 evaluation by other people of the data. You may
24 prefer, of course, to have it replicated or repeat
25 studies to see if in fact it was not a fluke as

1 opposed to being real.

2 The whole scientific method is involved in
3 that respect. And at such time as you can
4 reasonably conclude that there is a high probability
5 that something in fact is harmful that way, then you
6 would begin to consider what steps you should take
7 to follow it.

8 I cited the example of betapropiolactone
9 earlier. This was a most unusual thing. We
10 experienced these bad burns. This was very unusual
11 except for an acid or something, and that would burn
12 instantly. And this was something that if it got on
13 the skin didn't have its effect until some hours
14 later, but it was profound; very difficult to heal
15 and so forth.

16 This clued us in to - that there was
17 something going on there that was not the usual.
18 And it was most mysterious and troublesome. So, we
19 embarked on preliminary animal studies. And the
20 incidence of cancer in the animal skins in two
21 species was so high that it was alarming. And you
22 can't extrapolate really animal work to humans with
23 precision.

24 But the best minds at that time felt that,
25 one, if it was that active and produced such a high

1 incidence, it almost certainly would be carcinogenic
2 in humans. And at that point without doing other
3 studies or replicating it - but after many people
4 had evaluated it and agreed with this, we then
5 decided to take the steps which were to announce it
6 and to tighten up our own operation until we could
7 find a substitute material and avoid exposure to the
8 greatest extent possible - extreme extent possible.

9 And then, of course, we were fouled up and
10 we were fooled. And so far we have never seen a
11 case of cancer in all the people, including those in
12 the early days when it was still an early process
13 and we had lots of trouble with it - like a pilot
14 plant operation. A lot of varying exposures to it
15 during that early period. And we never saw a case.
16 So, we cried wolf; but we still felt good about it.

17 Q Well ---

18 A We are not going to remove -- We are not
19 recommending removal of it because this happens. We
20 haven't seen it. But there wasn't enough human
21 exposure to really make an epidemiologic study. And
22 everybody agrees it's wise to leave it on the list
23 at this point.

24 Q Certainly it was better to find out in
25 laboratory animals than to wait for ---

1 A If you can do that, yes.

2 Q --- for it in industrial workers; right?

3 A If you can do that. Some materials don't
4 lend themselves well to animal studies, or the
5 animals don't respond in the manner -- Like asbestos
6 inhalation studies don't really tell you very much.
7 So, it's a very complex issue. And I know it's
8 troubling to everybody. It's difficult to
9 administer and to - even to bring sound science to
10 the judgment you make. And you can be wrong.

11 Q If - if we go back to this question of the
12 continuum of evolving knowledge from suspicion to
13 certainty, if you ever get to certainty ---

14 A Right.

15 Q --- a ---

16 A I might add one other thing. A material
17 that hasn't been widely accepted as being hazardous
18 or causing certain things or you don't think because
19 of the way you use it here as opposed to where it
20 was used there, you perhaps get lulled into a false
21 sense of security. But there isn't any basis for
22 it. And then if an alarm gets sounded, then you
23 begin to look at it. And that's, of course, what
24 happened with asbestos. God, nobody expected
25 anything like this.

1 Q Looking back at this issue of the
2 continuum of knowledge from suspicion to certainty,
3 in your view does the - the severity of the
4 suspected harm affect the amount of probability or
5 certainty that you require before - before
6 implementing controls?

7 A If I understand that correctly, I guess
8 the answer is yes. I'm not quite sure it is because
9 I'm - the question is a little bit compound. But
10 certainly -- You are talking about the severity of
11 the harm ---

12 Q Yes, sir.

13 A --- would affect the -- Well, you tell me
14 what ---

15 Q I guess the better question would be how
16 does the - the severity of the suspected harm affect
17 the amount of certainty you require before it's
18 reasonable to act to prevent exposures?

19 A Well, the greater the degree of severity,
20 certainly the greater the interest in establishing
21 for sure that it is and then to take appropriate
22 steps.

23 Q If you get to the point where you have
24 information that - that causes you to conclude that
25 a material is a suspected let's say carcinogen, is

1 it then appropriate to take steps to control
2 exposures for ---

3 A As a suspected ---

4 Q Yes, sir.

5 A Well, there are various degrees of
6 suspecting. For example, I think Selikoff in his
7 report - that was suspected at that point. And then
8 it was felt like this was not a realistic study,
9 that the exposures were so intense and that - and
10 complicated by other exposures in the ship
11 breaking-type operations that we didn't know what to
12 make of it.

13 He was attributing it all to asbestos.
14 And there was a real question - was it asbestos or
15 was it other things? For example, with - with
16 welding torches, heating other structures, the
17 asbestos doesn't exist alone there. It's all kinds
18 of other things.

19 There were many questions about it. And
20 he himself is, you know, a suspect in the beginning
21 because of circumstances. But the warning was
22 heeded. And further work was undertaken as quickly
23 and expeditiously as it could be reasonably. And
24 ultimately it was accepted and OSHA recommended -
25 accepted it. Their acceptance of it hastened the

1 broad acceptance of it I'm sure.

2 Q Well, by the time the leading writers in
3 the field ---

4 A By the time what?

5 Q By the time the - the prominent writers in
6 the field conclude that - say asbestos is a probable
7 carcinogen, is it then time to - to implement
8 controls?

9 A As a probable ---

10 Q Probable.

11 A Well, that's the time to begin looking at
12 it more intensively.

13 Q Is it time then, though, to - to implement
14 controls at work to prevent exposures; or do you
15 wait until you have that scientific ---

16 A Well ...

17 Q --- certainty that you say came much ---

18 A If one has overwhelming evidence that is
19 likely to be supportive, you would consider probably
20 taking some steps. But until you reach that point
21 you may not. Particularly not if you had been of a
22 persuasion that there was no problem. Until such
23 time as somebody sounded an alarm in this country,
24 there was no reason for suspicion about asbestos.
25 And that's why most of us knew nothing about it;

1 knew nothing about the early history of the - such
2 findings, limited findings as they were.

3 The Doll report wasn't even widely
4 accepted, and it failed to consider cigarettes and
5 other things so that it didn't really make an impact
6 except retrospectively after the subsequent more
7 clear establishment that it was in fact a probable
8 carcinogen - it was a carcinogen.

9 Q What facts would you need or what things
10 would you need to see in order to form a subjective
11 belief that an employee was ---

12 A Was what?

13 Q --- that an employee was at risk for an
14 asbestos related disease?

15 A You used the word "subjective."

16 Q A subjective belief.

17 A As opposed to objective?

18 Q Yes, sir.

19 A What do you mean?

20 Q I'm just using it the same way that
21 Mr. Hutchins had used it earlier.

22 A Who?

23 Q I was using the term the same way
24 Mr. Hutchins used it earlier I think when he asked
25 you some questions about this ---

1 A You are throwing me off. Can you use some
2 other word or rephrase it or whatnot? I don't quite
3 know what the word subjective has -- That's quite
4 contrary to objective. We look for objective things
5 in scientific things. Subjective can be those
6 things that people imagine or sense or feel or -
7 et cetera, as opposed to things that are hard and
8 factual as I interpret the meaning of the word.

9 So, I don't see how that relates. It's my
10 problem I guess, but maybe you can help me.

11 Q Well, I think you were asked if you ever
12 formed an actual subjective belief that any Celanese
13 employee was at potential risk for asbestosis or an
14 asbestos-related cancer, that sort of thing?

15 A See, I don't see how the word
16 "subjective" -- You have got to take that into
17 consideration if I'm going to answer the question.
18 And I don't understand the use of the word
19 "subjective" there. Subjective and objective, for
20 example, are completely opposite sorts of things.

21 Is there some other word you could
22 substitute in there to make me understand what you
23 are saying or rephrase it in some way? That word is
24 just hanging me up completely.

25 Q Well, I - I'm assuming that what you say

1 about that word applies to the question you
2 answered - the questions you answered earlier for
3 Mr. Hutchins then?

4 A I don't recall what it was that I
5 answered. It may have been less confusing. I just
6 don't recall. But I don't understand. If that word
7 weren't in there I might - or if some other
8 alternative word might be in there I might have a
9 clear sense of the question.

10 Q Well, what would you need ---

11 A I don't know what yes or no means even,
12 for example, in that type of question.

13 Q What would you need to - to see or - or
14 know to form an objective belief then that a
15 Celanese employee was at potential risk for an
16 asbestos disease?

17 A Could you just take out objective or
18 subjective and leave it as a question?

19 Q Well, I ---

20 A What would I need to ---

21 Q If you can't answer it without ---

22 A No. No.

23 Q --- objective in it, I will take it out.

24 A What - what would I need to - to do what?

25 Q What would you need to know or observe to

1 form a belief that a Celanese employee was at a
2 potential risk for an asbestos-related disease?

3 A At what point?

4 Q Well, at the point you form that belief.

5 A Well, through well into the '70's I didn't
6 have any reason to suspect that it would. But if we
7 started seeing cases then it would certainly be
8 evidence that we ought to be paying attention to
9 it. We didn't through the period -- To '81 I never
10 heard of a case of asbestosis or any
11 asbestos-related disease, no malignancies or
12 anything.

13 That doesn't mean we might not have missed
14 something. But I mean I was never aware of any
15 case, and I have never heard of one since now. But
16 I haven't been on the scene; so, I can't say for
17 sure that there has never been a case in the last
18 16, 17 years. But in the absence of any evidence
19 whatever, I have to assume no.

20 Q Do I understand correctly that - then that
21 absent seeing a case of asbestosis or an asbestos
22 disease in a Celanese employee you would have no
23 reason to believe that any Celanese employees had
24 been at risk for an asbestos ---

25 A No.

1 Q --- disease?

2 A No. Since the period of certainly shortly
3 after OSHA, but certainly by the end of the '70's or
4 certainly by the early '80's we had to realize that
5 there was pretty widely established evidence that it
6 was a potential carcinogen. And certainly at that
7 point and sooner - because we were required to by
8 OSHA, even if you didn't believe it, you had to
9 objectively test. You had to do medical
10 monitoring. You had to do air sampling and some
11 other requirements; provide protection and so forth
12 if the levels were exceeded and so forth.

13 As the levels got lowered as you recall -
14 they were lowered through - to the point that it's
15 now down to - I think it's .1 part - particle per
16 cubic centimeter. That's down from a 10 or 12 on
17 the new scale, which they departed from the 5
18 million particle per cubic foot measuring scale.
19 They are not comparable really in - for
20 translating. But this is a hundredth essentially of
21 what the initial OSHA and the late A.C.G.I.H.
22 requirements were to provide a more and more margin
23 of safety.

24 Q And I - I apologize. I am not meaning
25 to - to argue with you and I am not intending just

1 to be repetitive and hammer at you; but I don't - I
2 don't know that I'm making my question clear enough.

3 But are there any specific things that you
4 could - could list for us that you would need to
5 know in order to form that belief that - that any of
6 your work force was at risk for an asbestos disease?

7 A In any of our work force?

8 Q Yes, sir.

9 A In actual reality ---

10 Q Well ...

11 A Actuality?

12 Q Right.

13 A Well, if they had exposure levels that
14 exceeded the prescribed safety limits, you would be
15 concerned. Certainly if you began to see clinical
16 signs of any fibrogenic developments, pleural
17 plaques or anything else that related to it; you
18 would be hyper-concerned if they were smokers, at
19 least for asbestosis; and tumors - I mean cancer,
20 not mesothelioma but with cancer; and you would want
21 to take steps to minimize both exposure and adverse
22 practices that -- I recall during that period that
23 Johns-Manville - Paul Kotin got the company to
24 insist that the work force became a nonsmoking force
25 because of the horrible accentuation of the hazard

1 if they were smokers as opposed to not being. So,
2 you'd undertake all the things that were
3 realistically important.

4 Q Okay.

5 A Mainly minimizing exposure to the greatest
6 extent you could, but certainly well below the
7 threshold limit value.

8 Q I think that we have an answer, and I
9 thank you.

10 A Okay.

11 MR. BLANKS: Shall we quit?

12 MR. HUTCHINS: Give me one
13 moment.

14 MR. BLANKS: Okay.

15
16 RE-EXAMINATION BY MR. HUTCHINS:

17 Q Dr. Dixon, this is Mike Hutchins again. A
18 couple of quick questions if I might.

19 You were asked what Celanese had available
20 to it to determine industrial hygiene risks prior to
21 your coming to Celanese. Would it be true that
22 before you came to Celanese that there were
23 industrial hygiene surveys done of Celanese's plants
24 by Kemper Insurance Company?

25 A Yes. Yes.

1 Q You were asked questions regarding a - a
2 continuum, moving from suspected risk up to probable
3 risk and so on. When something is determined to be
4 a probable risk - you were asked a question about if
5 whether one of the things you would consider would
6 be the severity of harm that might result.

7 A Yes.

8 Q Would it be true that one of the other
9 things that you would take into account would be
10 your appreciation of whether your work force had
11 enough exposure to that substance to be at any risk
12 of harm at all?

13 A I believe the answer is yes, that would be
14 correct.

15 Q Did you at any time while you were
16 employed at Celanese believe that any Celanese
17 employee had enough exposure to asbestos to be at
18 risk of any asbestos-related disease ---

19 A I didn't.

20 Q --- to include asbestos-related cancer?

21 A I did not.

22 MR. HUTCHINS: Thank you,

23 Doctor.

24 A I did not.

25 THE VIDEOGRAPHER: We are off

1 the record at 4:56.

2
3 (WHEREUPON THE VIDEO DEPOSITION WAS CONCLUDED.)
4

5 REPORTER'S NOTE: (DR. DIXON'S
6 C.V. WAS NOT RECEIVED BY THE TIME THE
7 TRANSCRIPT WAS COMPLETED. UPON
8 RECEIPT OF THE C.V., IT WILL BE
9 FORWARD TO COUNSEL REQUESTING SAME.)
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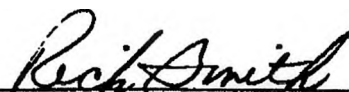
1 THE STATE OF TEXAS:

2 COUNTY OF JEFFERSON:

3
4 I, RICK SMITH, a Certified Shorthand
5 Reporter for the State of Texas, hereby certify
6 pursuant to the Texas Rules of Civil Procedure
7 and/or agreement of the parties present to the
8 following:

9 That this deposition transcript is a true
10 record of the testimony given by ERNEST MALCOLM
11 DIXON, M.D., the Witness named herein, on October
12 13th and 14th, 1998, after said witness was duly
13 sworn by me.

14 SWORN TO AND SUBSCRIBED by me in Beaumont,
15 Texas, on this the 26th day of October, 1998.

16
17
18 
19 RICK SMITH, CSR
20 Certification No. 2644
21 Expiration Date of Current
22 Certification: 12/31/99
23 Charlotte Smith Reporting, Inc.
24 235 Orleans Street
25 The Kyle Building
Beaumont, Texas 77701-2399
(409) 839-4407

DEPOSITION STIPULATIONSNO. 96-3348-EDeposition of: Ernest Malcolm Dixon. M.D.

Please complete this Stipulation or state your agreed Stipulations on the record.

The Attorneys for all parties present stipulate and agree to the checked items as follows:

1. Deposition is being videoed. Yes X No Video Operator: Warriene Flatt

2. Deposition is taken pursuant to:

- X a. Texas Rules of Civil Procedure
 b. Federal Rules of Civil Procedure
 X c. Notice
 X d. Subpoena
 e. Agreement
 f. Court Order

3. Objections:

- X a. Reserve all objections, except as to form and responsiveness
 b. Reserve all objections to time of trial
 c. Make all objections at the time of deposition
 X d. An objection by one defendant shall be considered an objection by all defendants

4. Signature:

- a. Signature of Witness is waived
 X b. Witness to read and sign deposition
 X c. If deposition is not signed by time of trial, unsigned copy may be used as though signed and timely filed

1 5. Custodial Attorney:

2 The deposition original will be sent
3 to Joseph C. Blanks for
4 safekeeping and use at the time of trial.

5 6. Jurisdiction:

6 If necessary, the Court Reporter
7 may swear the Witness in a non-Texas
8 jurisdiction.

9 7. Original deposition cost:

- 10 X a. Shall be borne by the Attorney
11 asking the first question.
12 _____ b. Shall be divided equally among:
13 _____ All Plaintiffs
14 _____ All Defendants.
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