

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY
CIVIL ACTION NO. 03-4837 (DMC)

UNITED STATES OF AMERICA EX REL.,	:	
DR. HELENE Z. HILL,	:	
	:	DEPOSITION OF
Plaintiff,	:	
	:	DR. MICHAEL ROBBINS
v.	:	
	:	
UNIVERSITY OF MEDICINE &	:	
DENTISTRY OF NEW JERSEY, DR. ROGER:	:	
W. HOWELL and DR. ANUPAM BISHAYEE,	:	
	:	
Defendants.	:	
	:	

T R A N S C R I P T of Deposition Proceedings
in the above-entitled matter, as taken by and before MARIA
F. PIOTROWSKI, Certified Court Reporter and Notary Public of
the State of New Jersey, at the offices of BUCCERI & PINCUS,
1200 U.S. HIGHWAY 46, CLIFTON, NEW JERSEY, on THURSDAY,
JANUARY 7th, 2010 commencing at 9:30 a.m.

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A P P E A R A N C E S

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Also Present: Helene Z. Hill

1 I N D E X T O W I T N E S S E S

2

3 WITNESS DIRECT CROSS REDIRECT RECROSS

4 DR. MICHAEL ROBBINS

5 By MR. LEONARD 4 79

6 By MR. PINCUS 67

7

8 I N D E X T O E X H I B I T S

9

10 NUMBER DESCRIPTION IDENT

11 ROBBINS-1 Expert Report by Dr. Robbins 24

12 ROBBINS-2 Expert report by Dr. Feinendegen 56

13 ROBBINS-3 Curriculum Vitae 63

14 R E Q U E S T S F O R D O C U M E N T A T I O N

15 Page Line Description

16 15 3 Copy of Cover Letter

17 63 10 Updated Curriculum Vitae

18 83 4 List of Articles Referenced

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1 DR. MICHAEL ROBBINS, currently doing business
2 at DEPARTMENT OF RADIATION ONCOLOGY, WAKE
3 FOREST UNIVERSITY SCHOOL OF MEDICINE,
4 WINSTON-SALEM, NORTH CAROLINA, 27157, was duly
5 sworn to tell the truth and testified as
6 follows:

7

8 DIRECT EXAMINATION BY MR. LEONARD:

9

10 Q. Good morning, Dr. Robbins. My name is John
11 Leonard and to my left is my colleague Scott Flynn and
12 together we represent the Defendants, UMDNJ, a Dr. Bishayee
13 and a Dr. Howell in a case brought by Dr. Hill against that
14 entity and those individuals pending in the United States
15 District Court for the District of New Jersey.

16 We're here today to take your deposition
17 because you've been identified by Dr. Hill as an expert who
18 will testify in support of her claims.

19 Do you understand that?

20 A. I do.

21 Q. Have you ever testified at a deposition
22 before?

23 A. I have not.

24 Q. Okay. I promise you it will be a relatively
25 painless process.

1 A. I hope so.

2 Q. Have you ever testified under oath in any
3 sort of proceeding before?

4 A. I have not.

5 Q. Okay. Have you ever qualified or provided
6 testimony as an expert before?

7 A. I have not.

8 Q. Okay. We'll go through a couple of quick
9 instructions that I hope will make this an efficient process
10 and get us out of here relatively quickly.

11 A. Okay.

12 Q. What we're going to be doing today is I'll be
13 asking you a number of questions. The court reporter to my
14 right, your left, is taking down everything we say to each
15 other verbatim. So that means a couple of things. It means
16 that I can't cut you off or shouldn't cut you off when
17 you're trying to answer and you should allow me to finish a
18 question before you begin to answer because if we're both
19 talking at the same time, besides rolling her eyes and
20 wanting to strangle us, she will not be able to take down
21 what we're saying.

22 Secondly, is the more natural response, which
23 you just did, you just nodded.

24 A. I did.

25 Q. And I knew exactly what you meant, but she

1 cannot record that. So if you can keep your responses
2 verbal, that would be very helpful as well.

3 A. Sure.

4 Q. You're here today as the court reporter
5 indicated you've been placed under oath. You understand
6 that the oath you're under today is the same oath as if you
7 were testifying in a court of law?

8 A. I do.

9 Q. If I ask you a question and you do not
10 understand the question, okay, please let me know. The
11 object here is to just get an understanding of the basis for
12 your position in your report. It's not to confuse you or
13 trick you. So if I say something in a way that either you
14 don't understand or maybe doesn't make sense scientifically,
15 you're the expert, I'm the layperson, say that.

16 A. Okay.

17 Q. Because if you answer a question, people
18 reading the transcript will assume you understood the
19 question.

20 A. I understand.

21 Q. Okay. There may come a time when Mr. Pincus
22 objects to a question. If he objects to any of my
23 questions, please suspend your answer immediately. Let Mr.
24 Pincus and I discuss it and then take direction from him as
25 to how you should proceed.

1 A. Okay.

2 Q. Breaks. It's not a marathon. I'm hoping to
3 get you out of here quick, but if you need, obviously, to
4 get a drink, go to the men's room or anything in between,
5 just let me know and we can accommodate you.

6 A. Okay. Thank you.

7 Q. Do you have any questions about what I just
8 told you?

9 A. No, that's clear.

10 Q. Do you have any questions for me before we
11 begin?

12 A. I do not.

13 Q. Could you please state your full name and
14 address for the record, please.

15 A. My full name is Michael Edmond Charles
16 Robbins. Do you want a home address or a work address?

17 Q. Work address.

18 A. Work address is Department of Radiation
19 Oncology, Wake Forest University School of Medicine,
20 Winston-Salem, North Carolina and the zip is 27157.

21 Q. You've been retained to act as an expert in
22 this proceeding, correct?

23 A. I have.

24 Q. And you've been retained by Dr. Hill?

25 A. I have.

1 Q. Prior to that retention did you know Dr.
2 Hill?

3 A. I did not.

4 Q. How did it come about that you and Dr. Hill
5 were put together, for lack of a better term?

6 A. We were put together because I am on the Book
7 of Organization, I think it's Roundtable, that essentially
8 deals with providing consultants for individuals or
9 companies and a colleague, who actually is the head of
10 radiation physics in the Department of Radiation Oncology,
11 suggested that I might want to join that organization. He
12 found it interesting and useful. So I joined the
13 organization and they emailed me to essentially see if I was
14 interested in being an expert in this case.

15 Q. When you say they emailed you --

16 A. I think -- I believe the Roundtable contacted
17 me, but I don't recall the exact details of that.

18 Q. Okay. Do you remember what they initially
19 told you about the case?

20 A. I believe they said they wanted somebody with
21 radiation biology expertise.

22 Q. And you consider yourself an individual with
23 that expertise?

24 A. I do.

25 Q. Do you recall responding to that email?

1 A. I don't recall the details, but I obviously
2 responded with an interest.

3 Q. Okay. And once that initial period was over,
4 the exchange of emails, what was the next step in terms of
5 your becoming retained for the purposes of this case?

6 A. You know, I can't recall that, the details.
7 I remember receiving correspondence from Shelly and I can't
8 recall if we had a conversation prior to receiving the
9 packet of information or an email correspondence. So I
10 don't recall the details, I'm afraid.

11 Q. Okay. Do you recall whether you had any
12 conversation with anyone prior to receiving materials
13 relating to the case?

14 A. No, I did not.

15 Q. Okay. So it was simply done by email?

16 A. (Witness nods.)

17 Q. You expressed an interest --

18 A. Sorry. I nodded my head. Yes, it was.

19 Q. And you know what, I went along with it, so
20 it's even worse.

21 So somebody reached out to you via email to
22 see if you'd be interested, you responded that you would be
23 interested and then were you then retained through email?

24 I'm trying to see how it was taken to the
25 next step where you would start receiving materials.

1 A. You know, I don't recall.

2 Q. Okay. Did you have any conversations with
3 Dr. Hill during this email time, initial email time?

4 A. No, I did not.

5 Q. Did you know that it was on Dr. Hill's behalf
6 that these emails were being sent to you?

7 A. I do not -- I apologize. I can't recall when
8 the identity of the individual was made to me and I
9 apologize that that doesn't sound very good but. I
10 didn't -- stretch my memory. I remember there was a
11 conversation that I had with Dr. Hill because Dr. Hill
12 essentially -- because I believe Dr. Hill needed to make
13 sure that she felt I was an appropriate expert for her.

14 Q. Okay. A little while ago you mentioned an
15 organization, Roundtable. Do you know the full name of that
16 organization?

17 A. I can't recall that, no.

18 Q. Do you know where they're located?

19 A. I don't. I can find out for you because I'm
20 on their books, but I don't -- I can't recall the address.

21 Q. As far as you know it's a directory of
22 experts, essentially?

23 A. Yes.

24 Q. And is it a published publication that is
25 sent to attorneys and other professionals?

1 A. I don't know.

2 Q. Have you ever seen your name in a
3 publication?

4 A. I have not.

5 Q. So you do recall speaking to Dr. Hill
6 initially?

7 A. I do.

8 Q. Do you know whether that was before or after
9 you spoke to Mr. Pincus?

10 A. I can't recall.

11 Q. Do you recall what you and Dr. Hill talked
12 about during that first conversation?

13 A. I can't recall the details, but I believe we
14 essentially discussed my expertise, my activity in radiation
15 biology.

16 Q. Okay. And did she -- and what are those
17 expertise, if you don't mind?

18 A. My particular expertise is studying the
19 effects of radiation on normal tissues.

20 Q. Okay.

21 A. The basis of that being that, you know, we
22 use radiation to treat cancer. If we could give enough dose
23 we would have cured cancer with radiation a hundred years
24 ago, but we can't because we also radiate some of the normal
25 parts of the body. And what I try and others to do is to

1 understand how does radiation damage those things and are
2 there ways that we can prevent that.

3 So that's my funded research primarily from
4 the government.

5 Q. Okay.

6 A. But in terms of radiation biology expertise
7 I've been teaching radiation biology for 17 years now
8 because as a member of the Department of Radiation Oncology
9 one of any responsibilities is I provide the radiation
10 biology expertise to residents in radiation oncology. So
11 these are individuals, they're MDs, they come to the
12 Department, they have a four-year residency program which is
13 mandated by the American Board of Radiology, details of
14 that. Part of that is they are tested, both verbally and by
15 written exam, in clinical radiation oncology, radiation
16 physics and radiation biology. So the radiation biology
17 course is a broad overview of the entire topic.

18 Q. Okay.

19 A. And I've been responsible for teaching that
20 to residents for 17 years now. Plus I also, as a member of
21 the Radiological Society of North America, which is the
22 radiology board, I've been involved in educational
23 subcommittees for several years. I've had an education
24 grant from them to teach radiation biology to individuals.
25 I've got a current -- I've got a grant from the Nuclear

1 Regulatory Commission also to develop teaching modules in
2 radiation biology. Plus -- just I've been doing this for 30
3 years, you know.

4 Q. Sure.

5 A. Every day I learn something new about
6 radiation biology. So I believe I'm an expert.

7 Q. Okay. Is one of the ways that you study to
8 try to avoid, and excuse the lay person's terms,
9 over-radiating, would be this bystander effect that everyone
10 talks about?

11 A. I do not study bystander effect directly and
12 the reason for that is, to be competitive in terms of
13 receiving a nice funding you have to be focused in one area.

14 Q. Okay.

15 A. So I'm very good in the area that I get my
16 funding. That's what I do. That's what drives my success
17 and my ability to get monies in.

18 That research is based on giving doses of
19 radiation that are going to kill cells. It's not based on
20 the bystander effect, which up until recently is only
21 looking at low dose effect.

22 However, I teach the radiation biology of
23 bystander effect in the course work that I give. So I'm
24 aware of the topic and I keep up-to-date with the current
25 ideas of these biological basis.

1 Q. Okay. So although you keep up on the ideas,
2 is it fair to say that you have never performed any
3 experiments during the course of your career involving
4 bystander effect?

5 A. That is correct.

6 Q. When you first became involved in this case I
7 assume you were provided documents upon which to review and
8 rely to form the basis for your opinion?

9 A. I was.

10 Q. Can you tell me what documents you were
11 provided?

12 A. I was provided with a huge amount of
13 documentation.

14 Q. Okay.

15 A. I was -- so I can't give you an exhaustive
16 list of that information.

17 Q. Okay.

18 A. Because it's just too much for me to recall.

19 Q. And who -- excuse me. Go ahead and finish.

20 A. No, that was fine.

21 Q. Who provided you that information?

22 A. Shelly.

23 Q. And was there a cover letter?

24 A. There was a cover letter.

25 Q. Did it enumerate what was being provided in

1 that cover letter?

2 A. It did.

3 MR. LEONARD: Shelly, I would ask for a copy
4 of that letter, please.

5 MR. PINCUS: I have no problem with giving
6 you a copy of that letter. Just follow it up. I don't have
7 it at my fingertips, but I can easily dig it out.

8 BY MR. LEONARD:

9 Q. Generally, can you tell me the types of
10 information you were provided?

11 A. There were details of experiments, details of
12 experimental results, details of the concerns that Dr. Hill
13 expressed in terms of reproducibility of Dr. Bishayee's
14 results, a number of documents that gave the timeline of,
15 for better words, her case up to that date.

16 Q. Okay. And before beginning to draft or
17 before forming your opinion, let alone beginning to draft a
18 written opinion, did you look at materials other than those
19 that were presented to you by Dr. Hill?

20 A. The only other materials I looked at were, I
21 would look at some of the publications.

22 Q. What publications did you look at on your own
23 that were not provided to you by Dr. Hill?

24 A. I can't recall.

25 Q. Do you recall how many?

1 A. Several.

2 Q. Do your recall the topic of the publications
3 that you were looking at?

4 MR. PINCUS: Objection to the form of the
5 question.

6 John, are you asking whether he looked at
7 things other than what he may have already enumerated in his
8 report? I just want to be clear.

9 MR. LEONARD: Yes. There's two bodies of
10 information. One he's saying he got a large quantity of
11 information from Dr. Hill and there's a letter, I guess,
12 laying out what that is.

13 What I'm saying is, besides that, what else
14 did you look at?

15 MR. PINCUS: Well, but I'm asking
16 specifically when he talks about literature are you talking
17 about anything other than what he -- he made a very detailed
18 list in his report.

19 MR. LEONARD: Yes.

20 MR. PINCUS: So I just want to be clear your
21 question goes separate and apart from what he may have
22 enumerated in his report.

23 MR. LEONARD: Yes.

24 MR. PINCUS: Do you understand that, Dr.
25 Robbins?

1 THE WITNESS: No.

2 BY MR. LEONARD:

3 Q. Okay. So the only materials that you looked
4 at were the documents from Dr. Hill and the ones noted in
5 your report?

6 A. That's correct.

7 Q. Okay. As part of the materials that were
8 provided to you, were you provided any details regarding the
9 protocols of any prior experiments that were completed?

10 A. I did.

11 Q. Do you recall with regard to what experiments
12 there were?

13 A. Those experiments were the ones described as
14 a hundred percent experiments and 50 percent experiments and
15 the details of which are in my report.

16 Q. Okay. And of the large amount of documents
17 you received from Dr, Hill and all the papers that you
18 looked at on your own that were listed in your report, did
19 you review and rely on all of those documents?

20 A. Can you repeat that question?

21 Q. Sure. You received a number of documents
22 from Dr. Hill and then you looked at documents on your own
23 that you identified in your report. And my question really
24 is, did you review and rely on all of that information to
25 prepare your report?

1 A. I did not look at every single file that I
2 was sent.

3 Q. Okay. Do you recall the types of files that
4 you did not look at?

5 A. PDF files of some experiments based on
6 looking at repeat after repeat after repeat, I believe that
7 the opinion that I came up with was the valid opinion.

8 Q. I just want to make sure I understand your
9 answer.

10 So you were given PDF files of experiments
11 that were previously conducted?

12 A. I was.

13 Q. And approximately how many PDF files?

14 A. I can't recall; hundreds, maybe thousands.

15 Q. Okay. And how many did you actually look at?

16 A. Hundreds.

17 Q. So you may have looked at them all?

18 A. No, I did not look at all of them.

19 Q. Okay.

20 A. But I can recall what percentage I did not
21 look at.

22 Q. Okay.

23 A. I looked at hundreds.

24 Q. Was there a significant number that you did
25 not look at?

1 A. I don't think so.

2 Q. Okay. So you think you looked at the
3 majority of them?

4 A. I believe so.

5 Q. Okay. Are there other types of documents
6 that you didn't look at for any reason?

7 A. I don't believe so.

8 Q. Okay. So everything besides those PDF files
9 of prior experiments, you looked at everything else that was
10 provided?

11 A. I did.

12 Q. Do you know whose experiments were in the PDF
13 files that you did not look at?

14 A. I do not.

15 Q. Do you know whose experiments were in the PDF
16 files that you did look at?

17 A. I looked at experiments from Dr. Bishayee,
18 from Dr. Merrick -- Dr. -- sorry, I'm having a hard time --

19 Q. Lenarczyk.

20 A. Lenarczyk, Dr. Hill's experiments. I believe
21 those three individuals were the experiments that I looked
22 at.

23 Q. Okay. And you don't know whose experiments
24 were in the group that you didn't look at?

25 A. I don't, no.

1 Q. Is there any reason that you didn't look at
2 all of them or?

3 A. Again, I think there was such a -- the
4 information that I did look at, in my opinion, allowed me to
5 adequately address the questions and to form the opinion
6 that I was being asked to form.

7 Q. And what opinion were you being asked to
8 form?

9 A. I was being asked to give a consideration
10 that the data generated by Dr. Bishayee had been fabricated.

11 Q. And which data is that?

12 A. That's the data published in two radiation
13 research journals. It's been presented, I believe, in an
14 NIH grant from Dr. Hill and it concerns some of the hundred
15 percent and some of the 50 percent experiments.

16 Q. Do you know exactly what data, though, is
17 alleged to have been fabricated by Dr. Bishayee?

18 A. The data I referred to is in my report. I
19 can't now give the exact experimental -- all these Bates
20 numbers.

21 Q. No, no, no, not the Bates numbers but
22 collectively the type of data, do you know what type of
23 data?

24 A. I do.

25 Q. What type of data?

1 A. Cell survival curves of experiments carried
2 out to look at the effect of tritiated thymidine in
3 radiation.

4 Q. Do you know if there was any device used by
5 Dr. Bishayee that's at issue in this case?

6 MR. PINCUS: Objection to the form of the
7 question. You may answer.

8 A. I didn't understand the question.

9 Q. Sure. Do you know what a coulter counter is?

10 A. I do.

11 Q. Do you have any understanding of whether or
12 not there is any allegations with respect to the counts that
13 Dr. Bishayee achieved with a coulter counter in or around
14 this time?

15 A. I do.

16 Q. What do you understand that allegation to be?

17 A. I understand that the data generated from the
18 coulter counter is the claim was it had been fabricated.

19 Q. And is that the data you referred to
20 previously when talking about Dr. Bishayee fabricating
21 information?

22 A. Not directly. I didn't look at -- my concern
23 was the shape of the survival curves that were generated by
24 Dr. Bishayee were very different --

25 Q. You can call him she. I'm not sure I'm

1 saying it right either.

2 A. The survival curves that were generated by
3 Dr. Bishayee were very different than ones that were
4 subsequently generated by Dr. Hill, Merrick and others.

5 Q. Okay.

6 A. So I did not look at the individual counts.
7 What I looked at was are those numbers -- have those that
8 have been used been plotted appropriately and of the shapes
9 of those curves what would be expected from radiobiological
10 principles.

11 Q. And just bear with me. As I say, I'm a lay
12 person.

13 So the coulter counts how would they be
14 utilized in the graphs to which you refer?

15 A. I believe that they're used to, in part, look
16 at uptake of radioactivity by cells.

17 Q. You say you believe.

18 A. I believe.

19 Q. Do you know for a fact?

20 A. I don't know for a fact, no, because, if I
21 may, I need to add something.

22 Q. Yes.

23 A. So ultimately the graphs are based on cell
24 count which are not counted by the coulter counter, they're
25 counted -- at that stage they were counted visually.

1 Q. So do you have any understanding as to what
2 real role the coulter counts played in any of the
3 experiments?

4 A. Not very clear, no, I have to admit.

5 Q. Okay. Is there any material that you believe
6 is out there that in hindsight you wish you had reviewed in
7 order to prepare an opinion in this case?

8 A. No.

9 Q. Have you ever talked to Dr. Lenarczyk?

10 A. I have met him, yes.

11 Q. In connection with this case?

12 A. No.

13 Q. Okay. Where did you meet Dr. Lenarczyk?

14 A. I met him at the Medical School of Wisconsin
15 in Milwaukee because I actually was interviewed for a
16 position in their radiation biology group. So I actually
17 visited last February. I chose the coldest day they'd had
18 in 13 years to go there.

19 Q. Have you ever talked to Dr. Bishayee about
20 this case?

21 A. No, I have not.

22 MR. LEONARD: Okay. Why don't we mark your
23 report and we'll call this Robbins-1. Does that make sense?

24 MR. PINCUS: Sure.

25 MR. LEONARD: I think that's what we've been

1 doing.

2 (ROBBINS-1 received and marked for
3 identification.)

4 BY MR. LEONARD:

5 Q. Dr. Robbins, before I hand you what has just
6 been marked as Robbins-1, can you tell me again as
7 succinctly as you can, what it is you were asked to look at?
8 What were you writing a report on, I guess is my question?

9 A. I was writing a report on the validity of
10 data generated by Dr. Bishayee.

11 Q. And which data are you referring to?

12 A. Well, I'm referring to the data that is
13 published in the two articles in Radiation Research and it
14 was in the grant proposal and data that purports to show an
15 expedient decline in cell survival curves following
16 addition of tritiated thymidine.

17 Q. Before we get into the nuts and bolts of your
18 report, could you tell me exactly what you did to
19 investigate that data?

20 A. I read the material that I was given and I
21 read literature that discusses the effect of tritiated
22 thymidine on cell survival curves.

23 Q. Have you ever worked with tritiated
24 thymidine?

25 A. No, I have not.

1 Q. In your entire 30-year career you've never
2 worked with tritiated thymidine?

3 A. I have not.

4 Q. Okay. So did you do anything personally; for
5 instance, did you try to replicate any of these experiments?

6 A. No, I did not.

7 Q. Okay. Did you visit the laboratory where
8 these experiments took place?

9 A. I did not.

10 Q. Did you interview anybody that had any
11 connection with these experiments?

12 A. I didn't interview anybody, no.

13 Q. You refer in your report to observations made
14 by Dr. Lenarczyk. Did you check with Dr. Lenarczyk to see
15 if, in fact, he made those observations?

16 A. I did not.

17 Q. Have you ever worked with thymidine?

18 A. I have not directly, no.

19 Q. So in your 30-year career you've never worked
20 with thymidine?

21 A. That's a no.

22 Q. Okay.

23 A. My area of personal research is different
24 from that.

25 Q. Okay.

1 A. However -- no. Okay.

2 Q. I'll show you what's been marked Robbins-1.
3 Okay?

4 A. Uh-huh. Yes.

5 Q. And just so we're clear, we've now been
6 through you've never conducted any experiments regarding the
7 bystander effect, correct?

8 A. Correct.

9 Q. You've never worked with thymidine, correct?

10 A. Correct.

11 Q. You've never worked with tritiated thymidine,
12 correct?

13 A. Correct.

14 Q. Prior to preparing this report you've never
15 visited the lab, correct?

16 A. Correct.

17 Q. You've never attempted to replicate any of
18 these experiments yourself, correct?

19 A. Not directly, no. I have done experiments in
20 which I've looked at effects of radiation to cell survival
21 of mammalian cells and I've published in that area.

22 Q. But, again, not involving thymidine and
23 tritiated thymidine bystander effect?

24 A. That's correct.

25 Q. In the first number of paragraphs you refer

1 to observations by Dr. Lenarczyk but we've established
2 you've never spoken to Dr. Lenarczyk to confirm that; is
3 that correct?

4 A. Can you tell me where specifically you're
5 looking at this?

6 Q. Sure. It's the first page, first numbered
7 paragraph one, in the last sentence. "2001 observed by Dr.
8 Hill and Dr. Lenarczyk."

9 A. And can you repeat your question?

10 Q. Sure. I just want to confirm what we said
11 earlier is that you never contacted Dr. Lenarczyk to confirm
12 that he actually observed what it is you're stating he
13 observed in your report?

14 A. That is correct.

15 Q. In number four you refer to "results
16 presented in the same publications and used as primary
17 evidence in the funded grant application are scientifically
18 impossible based on the conditions prevailing in Dr.
19 Bishayee's experiments."

20 You believe that that's absolutely,
21 scientifically impossible?

22 A. I do.

23 Q. What do you base that on?

24 A. I base that on the information that I put in
25 this report.

1 Q. And that information relates entirely to
2 thymidine, tritiated thymidine and bystander effect,
3 correct?

4 A. No, that's incorrect.

5 Q. Okay. Explain to me, then, what's the basis
6 for your statement.

7 A. The basis is the biological response that
8 would be predicted under these experimental conditions.

9 Q. Okay. But have you ever conducted such
10 experiments?

11 A. I personally, no, but all the individuals in
12 the publications that I cite have done.

13 Q. Okay. Let's turn to the next page of your
14 report.

15 Before we do, let's go back to Page One,
16 Number 3, you talk about "The coulter counter appears
17 statistically impossible."

18 Did you review the coulter counter numbers?

19 A. I personally did not.

20 Q. You did not. Did you do any statistical
21 analysis on those coulter counter numbers?

22 A. I personally did not.

23 Q. With all due respect, could I ask why you
24 would make that statement, then, if you have no personal
25 knowledge of that being the case?

1 A. Because analysis of Dr. Pitt.

2 Q. Okay. So you're relying on Dr. Pitt's report
3 for that statement?

4 A. That's correct.

5 Q. Does any portion of your report rely on that
6 statement about statistical impossibility?

7 A. No.

8 Q. So that's just a standalone statement that
9 you put in the report based on someone else's report that
10 you have no firsthand knowledge of?

11 A. That is correct.

12 Q. Okay.

13 A. To me that was the icing on the cake.

14 Q. Okay. But you don't know if that's the case,
15 do you; you never reviewed any of that information?

16 A. I read -- I have read Dr. Pitt's report.

17 Q. But have you ever done a statistical analysis
18 on that information yourself?

19 A. No, I have not. I'm not a statistician.

20 Q. Okay. But if you weren't going to rely on
21 it, I guess I was just wondering why it was there if you had
22 no first hand knowledge of it.

23 Okay. Let's go to experimental results.

24 Again, I'm a lay person so you're going to have to hold my
25 hand through a little bit of this.

1 At the end of the first paragraph it says
2 "These results" and it refers to the information in the
3 grant application by Dr. Howell to the NIH as well as the
4 two published papers.

5 "These results are impossible to generate due
6 to the following three reasons." Correct?

7 A. Correct.

8 Q. So Number 1, I believe, says "Tritiated
9 thymidine blocks the movement of cells through the various
10 phases of the cell cycle."

11 A. It's tritiated thymidine.

12 Q. I was hoping you'd help me with that one.
13 I'm dying.

14 "Tritiated thymidine blocks the movement of
15 cells through the various phases of the cell cycle."

16 Am I correct, the way I read this, that
17 appears to be your one truism and then if you don't have
18 Numbers 2 or 3 to counteract that, that's sort of the end of
19 the story; is that what you're saying there?

20 A. Could you repeat the question?

21 Q. Sure. It seems -- when I read this, the
22 truism seems to be Number 1, "Tritiated thymidine blocks the
23 movement of cells through the various phases of the cell
24 cycle." Period, that's the case.

25 Now, the way I read 2 and 3 is the only way

1 to get around the effect of one is to include 2 or 3 and
2 those weren't present, therefore, the reason that this
3 doesn't work is because the tritiated thymidine blocks the
4 movement of cells through the various phases of the cell
5 cycle.

6 MR. PINCUS: Objection to the form of the
7 question. You may answer.

8 A. I don't believe that 2 and 3 are dependent on
9 1.

10 Q. Shelly made a good objection because that's
11 not what I'm trying to say.

12 I mean, the way I read this is that 1 really
13 is the reason that if 1 was there by itself you should not
14 get the results because the tritiated thymidine stops the
15 movement of cells through the various phases of the cell
16 cycle.

17 Now, if you were to have what's identified in
18 2 or 3, and again in layman's terms, you could try to
19 counteract the result of the tritiated thymidine, but
20 without 2 and 3 the analysis would end at 1; is that a fair
21 statement?

22 MR. PINCUS: Same objection, form of
23 question. You may answer.

24 A. I don't have to answer.

25 Q. You do.

1 MR. PINCUS: You may answer.

2 A. The response to tritiated thymidine is a
3 major factor here.

4 Q. Okay. But is that sentence true, "Tritiated
5 thymidine blocks the movement of cells through the various
6 phases of the cell cycle?"

7 A. It is true.

8 Q. Okay. All cells?

9 A. I'm not sure what you mean by "all cells".

10 Q. Is it absolute; does tritiated thymidine
11 absolutely block the movement of cells through the various
12 phases of the cell cycle?

13 A. The data -- the literature that I quote
14 would suggest that that is the case with the concentrations
15 of tritiated thymidine that were used by Dr. Bishayee.

16 Q. I don't want you to tell me what they quote.
17 You're the expert. This is your opinion.

18 Is it your opinion that tritiated thymidine
19 absolutely blocks the movement of the cells through the
20 various phases of the cell cycle?

21 A. It is my opinion that under the conditions
22 that were used in the experiments that have been discussed
23 here that that is the case.

24 Q. Okay. And what conditions do you refer?

25 A. The concentrations of tritiated thymidine

1 that Dr. Bishayee used have been used by other
2 investigators, as I put in the report, and they show the
3 cell cycle is perturbed.

4 Q. And now, what I was saying about 2 and 3
5 earlier, the way I read 2 and 3, and I'm not trying to
6 mislead you, is that one way of sort of counteracting what
7 the effect, the perturbed effect that tritiated thymidine
8 would have on a pool is to either synchronize the cells or
9 add, I won't pretend to say it, but it's deox --

10 A. Deoxycytidine.

11 Q. -- is that a fair statement?

12 A. If deoxycytidine is present it will
13 counteract the effects of tritiated thymidine, that is
14 correct.

15 Q. And the same thing with Number 3, would that
16 counteract --

17 A. If the cells were synchronized, then you
18 would expect to see more cell killed than if the cells were
19 not synchronized.

20 Q. Okay. So primarily is it fair to say that
21 your finding of fraud is primarily based on the fact that
22 tritiated thymidine and the amount used blocks the movement
23 of cells through the various phases of cell cycle?

24 A. No.

25 Q. Then, what would be -- I mean, it says these

1 are the three basis.

2 A. Okay. To me these are three separate pieces
3 of information that allow me to draw a conclusion.

4 Q. Okay.

5 A. It's not one and these other two things are
6 there.

7 Q. Well, it's the opposite, right, it's one and
8 the other two are not there?

9 A. Right.

10 Q. Is that a fair statement?

11 A. To me all three components.

12 Q. Okay. So I guess what I'm saying is you drew
13 the conclusion it was fraud because there was tritiated
14 thymidine and there was not what's identified in 2 and 3?

15 A. I made the conclusion based on the fact that
16 tritiated thymidine concentrations that were present would
17 block, would perturb the cell cycle. There was no
18 deoxycytidine present to prevent that effect and there was
19 no attempt made to synchronize the cells.

20 Q. Okay. I understand.

21 Do you think -- do you believe as a scientist
22 the inability to replicate an experiment means that there's
23 been fraudulent activity?

24 A. Can you say that one again?

25 Q. Sure. As a scientist do you believe the

1 inability to replicate an experiment means that there has
2 been fraud?

3 A. No, I don't, not directly.

4 Q. Okay. In fact, isn't it commonplace in
5 science not to be able to replicate experiments?

6 A. It's not common to be unable -- let me start
7 again.

8 Biology is -- you know, the attraction of
9 biology is that, you know, we're doing things that are new.
10 Biology is a dynamic process. We design experiments based
11 on we adopt a set of conditions, we expect to see a result.
12 If I do an experiment and every time I do that I get a
13 different result, tells me there's something wrong and I
14 can't draw any conclusions. For me as a scientist, I think
15 we're all the same, for us to draw final conclusions we get
16 a result and we do it again and we do it again and we do it
17 again and we do it again. Then we use statistical analysis
18 based on discussions with a statistical expert to verify
19 that that is not happening by chance.

20 Q. Take your scenario. You do something and you
21 get the thing and you do it again and you do it again and
22 you don't get the exact same results as you did initially.
23 Are you suggesting that would constitute that fraud was
24 involved in the first experiment?

25 A. No, I am not. The interpretation is

1 everything.

2 Q. Okay.

3 A. So if there's a change in the response, then
4 the question is how did that change come about.

5 Q. And isn't the only way to know how that
6 change would come about would be to investigate all the
7 possible things that could have affected the outcome of the
8 subsequent experiments?

9 A. If the experiment -- we attempt to design
10 experiments such that we vary very few variables.

11 Q. When you say we, again --

12 A. I think that's the scientific community.

13 Q. But you don't do experiments using tritiated
14 thymidine, thymidine or related to the bystander effect.

15 A. That's irrelevant. The scientific principles
16 of how you do an experiment are across the board.

17 Q. Just answer my question, though.

18 It's irrelevant, but the answer is no, you
19 don't, right?

20 A. Can you repeat your question?

21 Q. Do you do any experiments involving
22 thymidine, tritiated thymidine or the bystander effect?

23 A. I personally do not directly, no.

24 Q. So how does one go from -- your example, you
25 do something and you try and you try and you try and there's

1 subsequent attempts and they all don't replicate. Okay? At
2 what point, if there's not an investigation to say why is
3 that, let's take the time and energy and put everything else
4 on the shelf and look at all and rule out one at a time all
5 the potential variables, how does scientifically one jump to
6 a conclusion of fraud before any of those are actually run
7 down or investigated, any of those variables?

8 MR. PINCUS: Objection to the form of the
9 question. You may answer.

10 A. Can you rephrase that question?

11 Q. Sure. The experiment that you just described
12 to me, you do something, you do it, you try it, you try it,
13 you don't replicate it, I said does that prove the first
14 time that's fraud, you said no. Same scenario, okay, only
15 now I'm saying somebody says there would be 10, 12, 15
16 variables out there that could affect this and nobody is
17 going to go and investigate those variables to say yes or no
18 with surety that they either had an effect or did not have
19 an effect. Do you think without that a scientist could say,
20 well, then let me go back then, I'm going to say the first
21 one was fraud?

22 A. If the experiment is designed properly there
23 are not 12, 14, 15 variables. The experimental
24 conditions --

25 Q. Answer my question, please.

1 MR. PINCUS: Let him finish. I think he's
2 trying to.

3 MR. LEONARD: Okay.

4 MR. PINCUS: Go ahead. Continue.

5 A. So I design the experiments or my students
6 design the experiments. For start we don't know if they're
7 going to work or not. We have a hypothesis and we test that
8 hypothesis. If the data being generated is just doesn't
9 work, work, doesn't work, doesn't work, that tells us
10 there's something wrong in what we're doing. So we have to
11 revise the hypothesis and design different experiments.

12 Q. What if it works once and you can't replicate
13 it, does that mean the first time you committed fraud?

14 A. It doesn't mean I committed fraud.

15 Q. How would you figure out whether there was
16 fraud involved or one of those variables?

17 A. Can you define what you mean by fraud here?

18 Q. Yeah. You gave a report that says here is a
19 summary of the basis of allegations of fraud. You basically
20 gave an opinion that says I've looked at documents and based
21 on those documents two scientists I am going to point to,
22 and probably ruin their careers, and say they committed
23 fraud.

24 A. Okay.

25 Q. And that's based on they got a result and it

1 couldn't be replicated. And what I'm saying is, without
2 investigating all those variables, firsthand, finding out
3 did they or did they not, not everybody saying could have,
4 would have, maybe, if, without going in there and finding
5 out, how does somebody look at those people that did the
6 initial experiment and say you're a fraud?

7 A. Sir, with respect, I think what you're asking
8 me is not the scenario that I was referring to when I was
9 referring to I do an experiment.

10 The scenario here on fraud is these data were
11 published, they were put to the scientific community as this
12 is what happens.

13 Q. Okay.

14 A. When I do that, I have a responsibility. I
15 have to ensure that when I publish something I believe that
16 this is true, it is reproducible because the rest of the
17 scientific community is going to read this and say, yes,
18 this is published, it's been through peer review, therefore,
19 it's most likely correct.

20 Q. And you follow this type of information, I
21 think you testified earlier, about bystander effect,
22 correct?

23 A. That's true.

24 Q. So you know other people have since had
25 success with bystander effect, correct?

1 A. I don't understand what you mean by success
2 in bystander effect.

3 Q. They've shown they can affect the bystander
4 effect; Dr. Hall at Columbia and others have published on
5 that?

6 A. There's a large amount of information on
7 bystander effect, yes, but I'm not sure what relevance that
8 has to this situation now.

9 Q. Well, besides Dr. Hill, have you ever heard
10 anybody say that what happened here is fraud; have you ever
11 heard anybody in the scientific community, if you read
12 papers on the bystander effect, have you seen an article
13 critical of the Howell -- actually Howell and Hill paper?

14 A. I have not.

15 Q. Okay. So with all these people, and we've
16 established you do not work in this field, with all these
17 people constantly doing experiments in that field in all the
18 years that have passed since this paper, your testimony is
19 you've never seen anybody take issue with the findings
20 published which include the protocol; is that correct?

21 A. Those people have not seen the information
22 that I saw in terms of the attempts to duplicate these
23 results. What these people see is the published article
24 which only gives the data presented from Dr. Bishayee's
25 status.

1 Q. Back up a minute. My question to you is,
2 with all of the protocol posted and a lot of people in the
3 field doing work on bystander effect have you ever seen a
4 paper or anyone taking issue with what was established by
5 Dr. Hill and Dr. Howell in their paper?

6 A. I'm not aware of that.

7 Q. Okay. You talked about applications and
8 falsifying information on applications a moment ago, right?

9 A. (Witness nods.)

10 Q. And I guess you're talking about the NIH
11 application?

12 A. I'm talking about publication at well.

13 Q. But certainly the application?

14 A. (Witness nods.)

15 Q. Okay. Isn't it true that you were with NIH
16 at the time the application for this was submitted?

17 A. I don't know what you mean by "with NIH".

18 Q. Weren't you, what do they call them, a study
19 member?

20 A. I was a member of the radiation study
21 section.

22 Q. One of 20, right?

23 A. I believe so.

24 Q. So wouldn't you have had to have reviewed
25 this application and actually voted on it?

1 A. I would have voted on that. In the review
2 process there are experts assigned to the particular grants.

3 Q. But you would have had to vote on the Howell
4 grant?

5 A. Excuse me, I didn't finish.

6 Q. Sorry.

7 A. The process is -- so the grants come in to
8 the NIH, they go to the particular study sections, then the
9 study section members are assigned the grants.

10 Q. But all the study members have to vote on the
11 grants?

12 A. They vote on that. They vote on the basis of
13 what is presented, what is presented by the reviewers.

14 Q. So the reviewers proposed and you voted for
15 this grant?

16 A. I don't recall. I don't recall seeing that
17 grant.

18 Q. But you would have had to have voted on it,
19 correct, because all 20 members vote?

20 A. If it was the case that that grant was
21 reviewed when I was a member of the study section and
22 physically present, that would have been the case, but I
23 don't recall.

24 Q. Okay. I will submit to you that it was
25 submitted in 1999 and you were a study member in 1999.

1 A. But I did not attend every single study
2 section.

3 Q. Okay. What did they do with the absentee
4 people if they have 20 of you? Do they need a quorum to
5 vote?

6 A. No. The reason I was not absent -- would not
7 be absent would be because my wife had health problems so I
8 would notify and there would have been somebody else in.

9 Q. So there's always 20, it just could be like a
10 rotating, temporary --

11 A. There's not -- it's not always 20, but there
12 are enough, there's always enough reviewers brought in with
13 the expertise to review the grants that are presented.

14 What I would point out, again what you're
15 voting on is what you are presented with in the grant so
16 you're not -- they would not be presented with the
17 information that I have seen in terms of the inability to
18 duplicate those results.

19 Q. See, this is where I'm getting confused with
20 your report. Is your issue the inability to duplicate the
21 results or is it the level of tritiated thymidine and the
22 lack of the other two factors that we talk about? That's
23 where I get confused because it seems like what you're
24 saying is I knew by just looking at the levels and that they
25 weren't going to use these two other things that that

1 couldn't be.

2 MR. PINCUS: Objection to the form of the
3 question because it's phrased in the disjunctive and it
4 could be both, but you may answer.

5 A. I apologize for not explaining myself.

6 The data cannot be generated based on
7 radiobiological principals, presence of tritiated thymidine
8 does cause an issue. The fact there's no deoxycytidine does
9 mean, once again, you can't get those data.

10 Q. You can't get those data as part of the
11 application process?

12 A. No, you cannot generate those data
13 biologically. You can generate the data by thinking this is
14 the result I want to get and, therefore, I'll generate the
15 numbers. But biologically you cannot generate those data.

16 Q. So it is those three factors and not -- it's
17 those three factors that you're saying you're basing your
18 conclusion that there was fraud?

19 A. Yes.

20 Q. Okay.

21 (A recess occurred.)

22 BY MR. LEONARD:

23 Q. Dr. Robbins, we're back on the record now and
24 I will just remind you that all of the instructions that we
25 went through earlier are still in place this morning and you

1 still remain under oath.

2 I'd like to go back to looking at your
3 report, if we might. And Page 8 it's like a list of
4 variables that could be at issue and it refers to a letter
5 by Dr. Howell that he said -- well, I'll quote you, "which
6 he proposed a number of possible factors that might explain
7 the differences in the data generated. However, as
8 discussed below, those failed to provide any evidence that
9 might explain the marked differences in the experimental
10 data generated by Bishayee and that of Lenarczyk."

11 MR. PINCUS: "And Howell."

12 Q. "And Howell." And then we go through some
13 bullet points and the common theme, I don't want this to
14 jump out you, you know, there's a lot of talk about in all
15 of these, like the first one says "It seems highly
16 unlikely," but that's not to say it's impossible, correct?

17 A. It's not impossible, it's highly unlikely.

18 Q. Okay. The third one down says "Without any
19 evidence to indicate this either occurred or would have had
20 any significant impact on the data, this provides no
21 explanation," but we never investigated that to see whether
22 there was any evidence; isn't that correct? Do you know if
23 anybody investigated to find any such evidence?

24 A. I don't believe they did.

25 Q. Okay. And if there had --

1 A. But in my opinion these are very, very minor
2 points given the weight of evidence in terms of the
3 tritiated thymidine, the deoxycytidine and the lack of
4 synchrony.

5 Q. Okay.

6 A. None of these points, in my opinion, would
7 really impact those.

8 Q. So you don't even have to take out the
9 disclaimers then, where it says, "It is not clear or without
10 any evidence," you don't need any evidence. What you're
11 saying is blanketly none of these things could have an
12 effect.

13 A. No, I'm not saying that.

14 Q. Okay.

15 A. I'm saying that in terms of weighing the
16 evidence, to my mind, these are minor compared with the
17 principals that were put in the earlier part.

18 Q. But my question to you is, if some of these,
19 and we're not -- nobody's even saying that this is the
20 entire universe of what could possibly be out there,
21 correct? I mean, you're not listing all the possible issues
22 that could have happened, you're taking this from a letter
23 from Dr. Howell who's saying maybe it's one of these
24 variables.

25 So my question to you is, are there variables

1 in here that alone or in combination could have caused the
2 problem in replication?

3 A. There's no evidence to suggest they did.

4 Q. That's not my question. Could they?

5 MR. PINCUS: Objection to the form of the
6 question. You know, anything is possible. The question is
7 is there any probability that it occurred, John.

8 MR. LEONARD: No, No, No. Don't answer for
9 him.

10 MR. PINCUS: I'm not. I'm objecting to the
11 form of the question.

12 MR. LEONARD: Nobody looked and tried to find
13 evidence.

14 MR. PINCUS: You're right, Dr. Howell didn't
15 look or find any evidence. We agreed with that.

16 MR. LEONARD: You're testifying.

17 BY MR. LEONARD:

18 Q. Is it your testimony that one or more of
19 these, if they were there, if there was evidence that they
20 were there, could have affected the outcome and prevented
21 the replication?

22 A. In my experience I don't believe that any
23 single one of these would have had the effect that was
24 presented in terms of the data.

25 Q. So my previous question, we could just cross

1 all these off because none of these, alone or in
2 combination, could have caused that effect; we can just take
3 this page out of the report?

4 MR. PINCUS: Objection to the form of the
5 question. You may answer.

6 A. To my mind it adds --

7 Q. Dr. Robbins, I'm not trying to give you a
8 hard time. I just need to know yes or no.

9 There's no point in discounting each one,
10 going down a laundry list by saying, you know, I haven't
11 seen any evidence. The point is if one or more of these
12 things were there, could they have caused the issue
13 regarding inability to replicate?

14 A. I think that's highly unlikely.

15 Q. So you don't know or you --

16 MR. PINCUS: Objection. Asked and answered.

17 A. Biology is not a definite.

18 Q. Okay.

19 A. If I tell you two and two equals four, the
20 whole world universe knows that two plus two equals four.
21 Math is definite. Biology is not. So I cannot hand on
22 heart say that there's no chance. But statistically it's so
23 unlikely that in my opinion this does not provide a
24 rationale.

25 Q. Let me ask you this, and I understand what

1 you're saying about biology not being an exact science, but
2 if you can't say that there's no chance, how would you ever
3 point a finger at a fellow scientist and say they committed
4 fraud? If you're unable to say there's no chance those
5 things didn't result in the inability to replicate, how
6 would you ever take that to the next step and say, but I
7 don't think it's likely and, therefore, he committed fraud?

8 A. You can replicate data. The data that I
9 published and other people published should be, should be
10 reproducible.

11 The situation here is you have data that were
12 generated that was not reproducible. It was not
13 reproducible by -- including Dr. Howell himself who
14 attempted to reproduce those.

15 Q. There's no doubt about that.

16 MR. PINCUS: Let him finish, please, John.

17 A. I haven't finished.

18 Q. You're saying you can't say -- go ahead.

19 A. Could you remind me what I said, is that
20 possible?

21 (The court reporter read the pertinent part
22 of the record.)

23 A. And there was no attempt to tell the
24 community that those data could not be reproduced.

25 Q. So that's why you think it's fraud? I'm

1 trying to figure out how you get from you can't reproduce it
2 and I can't rule out all these variables as the cause, yet
3 I'm going to say a fellow scientist committed fraud and
4 should be banished from the scientific community. I'm
5 trying to get that connection.

6 A. I'm not stating that anybody should be
7 banished from a community.

8 Q. Well, you're alleging somebody committed
9 fraud, a pretty well-known scientist committed fraud.

10 A. Yes.

11 Q. So you don't make no mistake about it, you're
12 the conduit that that's attempted to be done through.

13 A. Okay. That's not my responsibility for that
14 person's banishment.

15 Q. It's your responsibility if you're looking at
16 this --

17 A. It's my responsibility -- excuse me --

18 Q. Let me finish my question.

19 A. Okay.

20 Q. It's your responsibility if you look at those
21 factors and tell me I can't say that these factors weren't
22 the cause. How do you then connect the dot to say, but I
23 will say that I think there's fraud involved? I don't
24 understand that.

25 MR. PINCUS: Are you done so he can answer?

1 I just want to make sure because I don't want you guys
2 talking over one another. Is there anything else, John?
3 You can answer now, Doctor.

4 A. The question -- the reproducibility is the
5 fundamental consequence or fundamental concept of what we
6 do. Biology, I say, by its nature is variable. Therefore,
7 I do not expect to see exactly the same thing exactly the
8 same every single time. That's not the issue. But the
9 issue is I need -- when I generate information, if I'm going
10 to publish that or present it in a -- in some proposal and
11 I'm going to build up a case for saying I need more money to
12 pursue this, I have to believe that that really is correct,
13 that it's true.

14 If I'm presented with a whole lot of evidence
15 that those data are very questionable, it's my
16 responsibility to respond to that.

17 Q. Okay.

18 A. Not to apparently ignore it.

19 Q. How would you respond to it?

20 A. I would try -- I would try and replicate
21 that.

22 Q. Okay.

23 A. If I couldn't replicate it, I would then say,
24 okay, we have to do something about this.

25 In my own circumstance I have had a situation

1 where I got an NIH grant, one of the aims was to do one
2 thing, it didn't work, but I reported that to the NIH.
3 Every year you write a noncompetitive renewal in which you
4 state progress and future direction. If things aren't
5 working out correct, I notify people. I say, you know, we
6 can't do this, we're going to do something different. I'm
7 not misleading people. If I publish something and it's in
8 the literature, it's for real.

9 Q. And what makes you think Dr. Howell doesn't
10 believe this is for real?

11 A. The data that is presented in my report
12 clearly shows that those data are impossible to generate --

13 Q. As you know -- go ahead.

14 A. -- unless they're fabricated.

15 Q. So we can discount all of these items because
16 the only way to do it is to fabricate it?

17 A. Yes.

18 Q. So now you're, because this is important,
19 because before you weren't willing to say this, now you're
20 saying we can take a pen and draw through all these
21 variables because they don't count, that in your scientific
22 opinion any one or more of these in combination couldn't
23 have resulted in the inability to replicate, that's your
24 scientific opinion? So we can take that page and throw it
25 out; is that what you're saying?

1 A. I'm saying that these factors --

2 Q. Please answer yes or no. I just want to know
3 if that's what you're saying. We've been through it four,
4 five times.

5 MR. PINCUS: He's attempting to answer your
6 question. If it can't be answered yes or no, he'll explain.

7 Q. If you're telling me that these cannot be
8 responsible -- could one or more of these factors be
9 responsible for the inability to replicate; yes or no?

10 A. You're asking me to say something definite.

11 Q. You're an expert. What do you think I'm
12 going to be asking you. Yes, I'm asking you to tell me in
13 your expert opinion if one or more of these things could be
14 responsible for the inability to replicate the experiment;
15 yes or no?

16 A. Dr. Bishayee's data, I would say no.

17 Q. What data are you referring to?

18 A. The data that is published in the two
19 Radiation Research articles --

20 Q. Listen to my question, Doctor, please. We're
21 not trying to play word games.

22 A. I'm confused then.

23 Q. All I'm asking you is could one or more of
24 these factors be the cause for the inability to replicate
25 the original experiment results; yes or no?

1 A. No.

2 Q. So all this in your report we can take out?

3 A. To my mind it's part of the report.

4 Q. Why?

5 A. If you want to take it out, that's...

6 Q. You just told me it has no consequence.

7 MR. PINCUS: We're not conceding that it's
8 coming out from the report.

9 MR. LEONARD: You're not conceding anything.
10 You're not testifying.

11 MR. PINCUS: I'm just saying if you're
12 suggesting --

13 MR. LEONARD: Objection to form. Objection
14 to form. Fine.

15 MR. PINCUS: But we're not in any way
16 suggesting that that comes out of the report, but you can
17 continue.

18 Q. What are you suggesting? What are you
19 suggesting? Because I don't know. If I ask you if it
20 matters you tell me it matters. If I say doesn't it matter
21 you say, okay, it doesn't matter. You just have to tell me
22 what your opinion is.

23 MR. PINCUS: Objection. Argumentative.
24 Asked and answered.

25 Q. I'm not being argumentative. You just need

1 to tell me your opinion.

2 Could one or more of those things be
3 responsible for the failure to replicate? I know you don't
4 want it to be, I'm asking you if it could be.

5 A. I don't think so.

6 Q. Okay.

7 (A recess occurred.)

8 BY MR. LEONARD:

9 Q. Dr. Robbins, we're back on the record now and
10 I remind you all the prior instructions are still in place.

11 A. I understand.

12 Q. And you remain under oath.

13 We've talked about the Bishayee fabricated
14 data. Okay? Do you know what role that played in the
15 bigger picture of Dr. Howell's grant?

16 A. I'm not sure. Could you maybe rephrase the
17 question?

18 Q. Yeah. What relevance did it have to the
19 overall project? What role the alleged fabricated data
20 played in the bigger picture of the stated goals of Dr.
21 Howell's grant?

22 A. I think it supported the overall hypothesis,
23 but I don't recall the details of the grant.

24 Q. Okay. So it would be fair to say that you
25 really don't know?

1 A. I don't know the details, no.

2 Q. Okay. I assume as part of your preparation
3 here today you reviewed the expert retained by UMDNJ, Dr.
4 Ludwig Feinendegen?

5 A. I did, yes.

6 MR. LEONARD: Could I have that marked,
7 please, as Robbins-2.

8 (ROBBINS-2 received and marked for
9 identification.)

10 BY MR. LEONARD:

11 Q. Having read Dr. Feinendegen's report did that
12 give you pause or any concern about some of the conclusions
13 reached in your own report?

14 A. No, it did not.

15 Q. Do you agree with any portions of his report?

16 A. That's a very open question.

17 MR. PINCUS: You want him to go line by line?

18 Q. Do you agree with the conclusions reached in
19 his report?

20 A. Can you specify which conclusions?

21 Q. Sure. Do you know Dr. Feinendegen?

22 A. No, I don't.

23 Q. Do you know of him?

24 A. No, I don't.

25 Q. When you were preparing for your own

1 deposition, or at any time, did you read Dr. Feinendegen's
2 report in detail?

3 A. I have, yes.

4 Q. And we will go through different portions of
5 it, but obviously you see where he takes issue with a lot of
6 your findings and the methodology by which you purport to
7 use to get to those findings?

8 A. I do.

9 Q. His is a rebuttal report, you write a report,
10 his report really is in response to yours and I guess the
11 first thing I would do is offer you an opportunity to
12 respond to his report.

13 Do you have any overall remarks regarding his
14 findings?

15 A. Only that it doesn't impact -- my expert
16 opinion remains unchanged.

17 Q. Okay. As you know, Dr. Feinendegen, please
18 don't take this personally, takes issue with your areas of
19 expertise and says that you failed to comprehend the
20 biochemistry thymidine incorporation into the cell. That's
21 in the middle of the paragraph.

22 I assume you disagree with his assessment of
23 your abilities?

24 A. I do.

25 Q. On Page 2, he goes through your Robbins

1 reason one. Could you read the two paragraphs that he has
2 after that and tell me your response to that.

3 MR. PINCUS: You want him to read it to
4 himself?

5 MR. LEONARD: Yeah.

6 MR. PINCUS: So we're talking about the one
7 that starts "this claim totally fails"?

8 MR. LEONARD: Yeah.

9 MR. PINCUS: And "the Bishayee et al"?

10 BY MR. LEONARD:

11 Q. Why don't you read it out loud. I don't mean
12 to do that to you, but if you don't mind.

13 A. "This claim totally fails considered the fact
14 that the amount of thymidine molecules and not tritiated
15 thymidine as such may cause blocking the movement of the
16 cells to the various phases of the cell cycle. In other
17 words, Dr. Robbins' statement fails to consider the
18 difference between high and low specific activities of
19 tritiated thymidine, that is the relative large and small
20 number of tritium atoms per unit number of thymidine
21 molecules in the experiments by Bishayee et al.

22 Bishayee et al. have used high specific
23 activity tritiated thymidine as demonstrated below in more
24 detail (pages 6-8). Stated another way, high specific
25 activity means that a given number of tritium atoms are

1 bound to a small amount of thymidine molecules. On the
2 other hand, low specific activity means that the same number
3 of tritium atoms is bound to a relatively large amount of
4 thymidine molecules.

5 Q. With respect to those two paragraphs do you
6 agree or disagree with Dr. Feinendegen?

7 A. I disagree with the opinion that the amount
8 of tritiated thymidine would not have perturbed the cell
9 cycle.

10 Q. Okay.

11 A. Based on the papers that I refer to in my
12 report.

13 Q. Okay.

14 A. And actually and others that I'm now aware of
15 as well. I think there's a paper by Hu, et al, which I did
16 not refer to in my report that again substantiates.

17 Q. Where did you see that paper?

18 A. I found it on PubMed.

19 Q. Okay. It says reason one and it repeats your
20 reason, "Tritiated thymidine as such blocks the movement of
21 cells."

22 Are you saying in general or in this case?
23 Do you see what I'm saying?

24 A. Tritiated thymidine does -- can -- does block
25 movement of cell through the cell cycle particularly in the

1 concentrations used in the Bishayee experiments.

2 Q. What concentrations were those?

3 A. They're in the report later on, that's on
4 Page 7, I believe, where --

5 Q. Of your report?

6 A. No, this is Feinendegen's report.

7 Talks about the high specific activity.

8 Q. Right.

9 A. And also it talks about, on the next page,
10 talks about a concentration of .12 micromole. There are
11 publications that have used the same specific activity and
12 same concentration and have shown perturbation of the cell
13 cycle. Actually there are studies using much lower
14 concentrations, a hundred to a thousand for the lower
15 concentrations, as reported here, still perturb the cell
16 cycle.

17 Q. And he's taking issue with the fact that you
18 are talking about human cells or?

19 A. That's irrelevant. That's mammalian cells.

20 Q. So you're saying the type of cells is
21 irrelevant to the analysis?

22 A. I'm saying that the type of cells that the
23 tritiated thymidine concentrations perturbs a broad variety
24 of cells. It's not a cell-specific response.

25 Q. Okay. In Feinendegen's report, when he goes

1 through the various experiments, he finds that there was
2 no -- Paragraph 2 on Page 3, he says, "Hence there was no
3 perturbation of the pool by thymidine in experiments by
4 Bishayee and thus also with certainty no thymidine-related
5 blocking of movement of cells through the various phases of
6 the cell cycle." Do you see that?

7 A. I do see that.

8 Q. I assume you disagree with that?

9 A. I disagree.

10 Q. Okay.

11 A. Published data refutes that statement.

12 Q. All published data?

13 A. No. Published data by the papers from I
14 think it's Hu et al, Korbitova (sp), the publications that I
15 put in my report and additional ones where people have used
16 the same concentrations, lower concentrations, and have
17 clearly shown perturbation of the cell cycle.

18 Q. What about the papers that Dr. Feinendegen
19 cites, did you read any of those?

20 A. I did. They're different. Those experiments
21 are actually designed to use the thymidine to inhibit cell
22 cycle. It's comparing apples and oranges. It's a
23 completely different experimental design.

24 So what he states is correct and a lot of
25 those papers actually were in my report. So I agree with

1 those statements. That is true. That's not the
2 experimental design that Dr. Bishayee used.

3 Q. Okay. Walk me, because the apples and
4 oranges, walk me through what you mean by that.

5 A. The experiments that he and I refer to --

6 MR. PINCUS: You're on Page 8 of Dr.

7 Feinendegen's report, so we have a clear record here.

8 A. -- are referring to experiments designed to
9 show the effect of thymidine on blocking the cell cycle.
10 The thymidine is put there to block the cell cycle, that's
11 why that agent was used.

12 In the experiments that Dr. Bishayee used,
13 the tritiated thymidine is not there ideally to block the
14 cell cycle. The idea is to actually to irradiate the cells
15 and cause cell kill.

16 Q. Describe for me the difference between
17 tritiated thymidine and the thymidine.

18 A. Thymidine is -- the tritiated thymidine is
19 radioactive labeled, so it has a radioactive label on it.
20 The thymidine is the compound that's taken up by the cells
21 when they're synthesizing DNA, goes into the DNA.

22 If you have a radial label, the tritium on
23 there, now you've put that radial label into the DNA and you
24 can now now actually -- it will now irradiate that DNA and
25 can cause, can cause some damage.

1 MR. LEONARD: Would you mark that, please.

2 (ROBBINS-3 received and marked for
3 identification.)

4 BY MR. LEONARD:

5 Q. Dr. Robbins, I'm handing you a document that
6 has been marked Robbins-3. I take it it's your curriculum
7 vitae. Let me know if that's the updated, most current one
8 you have.

9 A. It's not.

10 Q. Oh, it's not. Okay. Could you get me --

11 A. Sure.

12 Q. -- whatever it is --

13 A. Sure. I make changes pretty frequently so I
14 can send you one.

15 MR. PINCUS: You'll send it to me and I'll
16 pass it on.

17 THE WITNESS: Okay.

18 Q. With respect to this whole process
19 surrounding this case are you aware of the fact that this
20 has been looked at three times by different review boards
21 including ORI?

22 MR. PINCUS: Objection to the form of the
23 question. No foundation. You may answer.

24 A. I'm aware that there were two, I believe two
25 internal committees of the university that looked at this

1 and that the ORI looked at this.

2 Q. Okay. So you are aware that it's been looked
3 at three times?

4 A. Yes.

5 Q. And you are aware that there was a finding of
6 no scientific misconduct in all three instances?

7 A. I am.

8 Q. And you're aware that this is a qui tam
9 action; is that correct?

10 A. Yes.

11 Q. Do you understand what a qui tam action is?

12 A. No, I don't.

13 Q. Okay. I can explain it to you.

14 A qui tam action is where an individual
15 called a relater goes in and files a lawsuit purportedly on
16 the behalf of the United States. It's under seal so the
17 folks against whom it is filed don't even know that it's
18 been filed. And then the United States government has a
19 period of time, it's usually six months, but they can get
20 extensions, and they come back and say after our
21 investigation we're either going to pursue it because we
22 think it has merit or we're not going to pursue it.

23 In this particular case that investigation
24 went on for better part of five years and the United States
25 government came back and said, no, we don't think -- we're

1 not pursuing it. We don't think there's enough merit to
2 pursue it.

3 Were you made aware of that?

4 A. I don't recall.

5 Q. Okay. Have you read the ORI report?

6 A. I have.

7 Q. Was that part of the documents that Dr. Hill
8 and Mr. Pincus provided to you?

9 A. It was.

10 Q. Do you have any understanding regarding how
11 many proposed experts were interviewed by the Plaintiff in
12 this case?

13 A. No, I don't.

14 Q. Just give me a couple minutes. Maybe we can
15 wrap up. Why don't we take ten minutes.

16 (A recess occurred.)

17 BY MR. LEONARD:

18 Q. Dr. Robbins, we're back on the record and you
19 know, of course, all the instructions still remain and you
20 remain under oath.

21 A. I understand.

22 Q. In your report you refer to the successful
23 grant application submitted by Dr. Howell as well as two
24 published papers. Have you actually read those papers in
25 the grant?

1 A. The two Radiation Research manuscripts?

2 Q. The two published papers?

3 A. Yes, I have.

4 Q. How about the grant?

5 A. I didn't read the whole grant. I read the
6 preliminary data section in which the disputed data is
7 presented.

8 Q. And you're aware of the fact that the grant's
9 been renewed?

10 A. I am.

11 Q. Did you read the renewal application?

12 A. I did not.

13 Q. Okay. Is there anything else you wish to say
14 about your report or anything we discussed today?

15 A. I think I'd just like to add, you know, my --
16 the reason for my opinion and my support is essentially for
17 concern over, to my mind, being faced with a situation in
18 which, if I have something that is purported to be reality,
19 has been published, and I'm presented with over 20
20 experiments that failed to reproduce that, that even I am
21 doing and I can't reproduce that, that to me is a big red
22 flag. I have to do something about that. I have to report
23 that, report that to the scientific community, report that
24 to the funding body. And it is something that, you know, to
25 report to the funding body, to my mind, is no big deal. If

1 you tell NIH up front there's a problem, you know, I think
2 they will help you deal with it.

3 Part of the process for them and for us is
4 really to help the PIs to achieve success. Nobody's out to
5 nail anybody. But the failure to do that, the failure to
6 recognize what strongly I believe is fraud, really concerns
7 me.

8 Q. Okay.

9 A. That's why I'm here.

10 Q. Thank you for your time.

11 A. Thank you.

12 CROSS-EXAMINATION BY MR. PINCUS:

13 Q. Okay. Dr. Robbins, I have a few questions in
14 light of the questions that Mr. Leonard asked you here this
15 morning.

16 You were asked your experience in terms of
17 dealing with experimentation involving thymidine or the
18 tritiated thymidine or the bystander effect.

19 Do you recall that testimony?

20 A. I do.

21 Q. Notwithstanding your responses, do you
22 believe that your training and expertise in radiation
23 biology equipped you to render an opinion in this case?

24 A. I do, very strongly.

25 Q. And you base that on what?

1 A. I base that on 30 years of scientific
2 research, of 30 years of critiquing my own experiments, I've
3 reviewed other people's manuscripts, I've reviewed grants
4 for the NIH, RSNA, numerous scientific bodies. I've served
5 on the Radiation Research study section.

6 The reason that you get on those committees
7 is recognizability to be objective and to be able to
8 understand, not only your -- the specifics of your own area
9 of interest, but have a broad expertise and I think it's
10 important to realize that, and I think this is the case of
11 all the PIs, it's not that we know this little thing that we
12 do in detail, we have a broad detail. I teach radiation
13 biology so, therefore, I need to know all aspects of
14 radiation biology.

15 Q. In the course of your preparing your report
16 and preparing even for this deposition I believe you
17 identified the fact that you read Dr. Feinendegen's report
18 which was marked as Exhibit Robbins-2; is that correct?

19 A. That's correct.

20 Q. Did you also have the opportunity to read the
21 deposition that I took of Dr. Feinendegen?

22 A. I did.

23 Q. Did you also have the opportunity to read the
24 other -- any of the other depositions in this case,
25 particularly Dr. Howell's; do you recall?

1 A. I've read all the depositions.

2 Q. And Merrick Lenarczyk's, you've read that
3 too?

4 A. Yes.

5 Q. Did you rely upon those as part of the
6 documentation to form your opinions in this case?

7 A. They helped me -- they reinforced my opinion,
8 is the best way of putting it.

9 Q. Now, with regard to questions that
10 Mr. Leonard asked you when we were referring to, I believe,
11 Page 8 of your report that's marked as Exhibit Robbins-1,
12 see where I'm referring to where we were talking about those
13 list of variables?

14 A. I do, yes.

15 Q. Do you recall reviewing the testimony of Dr.
16 Howell in regards to his list of possible hypotheses to
17 explain the difference in the data?

18 A. I do.

19 Q. Were you able to determine that he had
20 engaged in any type of investigation of these variables?

21 A. It would appear that he did not.

22 Q. Did you find him to provide any data to
23 substantiate whether any of these variables might be a cause
24 of the inability to replicate the experiments that Dr.
25 Bishayee had engaged in?

1 A. No, I did not.

2 Q. You were questioned in regards to Dr.
3 Feinendegen's report, specifically the issue, as I
4 understood it, relating to the thymidine pool; do you recall
5 that?

6 A. I do.

7 Q. To your knowledge, were you able to determine
8 whether Dr. Feinendegen could ever specify the pool size in
9 V79 cells?

10 A. He could not.

11 Q. Are you aware of anything in the literature
12 that specifies what the pool size is in the V79 cell?

13 A. There's nothing in literature that specifies
14 the thymidine pool for V79 cells. There's a table in an
15 article from Cleaver, I believe Cleaver and Holford, in
16 which they actually give a range of concentration of
17 thymidine for mammalian cells and suggest a value of 10^{-4} to
18 10^{-5} molar is an approximate range.

19 Q. And I believe that Cleaver Holford article
20 was a resource that you cited in your paper?

21 A. It is, yes.

22 Q. And you're familiar with that?

23 A. Yeah.

24 Q. And I believe you also had mentioned two
25 other authors a Hu, H-U, and Korbitova; do you recall that?

1 A. Yes.

2 Q. I'm going to show you -- just so we're clear,
3 I want to make certain, I'm going to show you certain
4 exhibits that were marked during the course of Dr.
5 Feinendegen's deposition.

6 A. Okay.

7 Q. I'm going to first show you Exhibit
8 Feinendegen-5. Is that the Cleaver Holford article or
9 publication article that you're referring to?

10 A. It is.

11 Q. And you mentioned a couple of moments ago
12 that to your recollection there is a table that talks about
13 ten to, I think it was, minus four or five molar; is that
14 correct? Can you identify what page that is, to the best of
15 your recollection?

16 A. Actually I believe that table is from a book
17 that was published by Cleaver.

18 Q. Okay.

19 A. And it's not actually in this publication.

20 Q. Why don't you look at Page 665 of that
21 article, maybe that will assist you, so I don't have to have
22 you thumbing through the pages.

23 A. Okay.

24 Q. There's a reference, I'm looking at my copy
25 of it, there's a reference again to the minus four, about

1 halfway down the page. Is that what you were referring to?

2 MR. LEONARD: Objection to form.

3 Q. I'm on Page 665. If I'm incorrect, let me
4 know.

5 A. That is not. That is not what I was
6 referring to.

7 Q. You're referring to what then?

8 A. I'm referring to a table from a book, either
9 book chapter or book that Cleaver has published which
10 actually has a table in which he lists the concentrations.

11 This paper is interesting because it actually
12 shows, looking at the effect of adding tritiated thymidine,
13 it shows the concentrations that were on the order of a
14 hundredfold lower than those used by Bishayee did actually
15 perturb the cell cycle. So I think it refutes the arguments
16 of Dr. Feinendegen.

17 Q. Just so we're clear, when you made reference
18 to the Hu publication, let me show you what was marked as
19 Feinendegen Exhibit 10, is that the publication you were
20 referring to?

21 A. Yes, it is.

22 Q. And you made mention to an article by someone
23 by the name Korbitova. I'm going to show you what was
24 marked for identification as Feinendegen-22; is that the
25 article?

1 A. Yes, it is.

2 Q. When you reviewed the deposition of Dr.
3 Feinendegen did you also have available to you all of the
4 various exhibits?

5 A. I did.

6 Q. Do you recall looking at something that was
7 marked as Exhibit Feinendegen-11?

8 A. I do.

9 Q. What does this tell you, what was your
10 understanding of what this document related to?

11 A. This shows concentrations of thymidine from
12 the publications that I believe most, if not all of these,
13 are actually in my report, that shows that thymidine can
14 block the cell cycle.

15 Q. Did this document to your knowledge -- does
16 this document in any way cite or reflect what the size of
17 the thymidine pool in the V79 cell line is?

18 A. No, it does not.

19 Q. Do you agree with Dr. Feinendegen's opinion
20 that the amount of tritiated thymidine that was added in the
21 Bishayee experiments was too small to affect the pool and,
22 therefore, to interfere with the cell cycle?

23 A. No, I do not.

24 Q. Can you tell me why you disagree?

25 A. Again, as the paper by Cleaver and Holford

1 clearly demonstrate, the concentration of tritiated
2 thymidine that I believe are a hundredfold lower than those
3 referred to in Dr. Feinendegen did impact the cell cycle and
4 there are a number of other studies, other publications that
5 also point out the same thing.

6 Q. In the course of reading Dr. Feinendegen's
7 report did you see that he relied upon an experiment that
8 had been cited to him by Dr. Howell by someone by the name
9 of Harapanhalli?

10 MR. LEONARD: Objection to form.

11 A. I did.

12 Q. H-A-R-A-P-A-N-H-A-L-L-I.

13 Q. And did you have occasion to review the data
14 which Dr. Feinendegen indicated that he reviewed for
15 purposes of commenting on this experiment, specifically I
16 show you what has been provided as documents Bates stamped
17 UMDNJ Hill 0047554847? Just take a moment to look at that.

18 MR. LEONARD: Do you have a copy for us,
19 Shelly?

20 MR. PINCUS: I don't have an extra copy but
21 I'll share mine with you when we're done.

22 MR. LEONARD: What is he looking at?

23 MR. PINCUS: This was what Dr. Bishayee
24 identified in the course of his deposition as the
25 Harapanhalli experiment. It was the documents that I just

1 gave you the Bates stamp numbers --

2 A. Feinendegen.

3 MR. PINCUS: I'm sorry Dr. Feinendegen. I
4 apologize.

5 A. Yeah, I did see these.

6 BY MR. PINCUS:

7 Q. Were you able to interpret the graphs that
8 were located within this documentation?

9 A. Not all -- some of them I could. There's a
10 real mix of data there.

11 Q. Okay. When you say there's a whole mix of
12 data there, what are you referring to?

13 A. In terms of when you're looking at the effect
14 of radiation of the cell cycle there are some studies which
15 they've looked at reduction of survival in the orders of two
16 logs, three logs, four logs. So it's hard to compare some
17 of those. So what I actually did was take the most, sort
18 of, comprehensive sets of data and plotted those out.

19 Q. And when you plotted them out what did you
20 determine?

21 A. If you plot the data out you see a biphasic
22 response which again is indicating that the Bishayee data
23 appears to be fabricated. Not only that, they have a series
24 of experiments in which they look at cell survival with or
25 without deoxycytidine and in those cells in which

1 deoxycytidine was present you actually got, I believe, in
2 the order of 15-fold greater amount of cell kill, which
3 again supports the importance of deoxycytidine in being able
4 to get that level of cell kill. Deoxycytidine was not
5 present in the experiments by Bishayee, therefore, the data
6 appears to fabricated.

7 Q. And your understanding was that Dr.
8 Feinendegen was citing this Harapanhalli experiment as an
9 experiment that had been performed which demonstrated an
10 expediential decline as a result; is that correct?

11 A. Can I look at the document of what he says?

12 Q. Sure.

13 MR. LEONARD: What are you looking at, Dr.
14 Robbins?

15 THE WITNESS: This is Page 13, the second
16 paragraph that starts "Reason three again."

17 MR. LEONARD: Okay.

18 A. What he's really referring to -- actually
19 what he's referring to is synchronization.

20 BY MR. PINCUS:

21 Q. And he is positing what in regard to
22 synchronization?

23 A. Well, he's arguing that you don't have to
24 have synchronization to get the amount of cell kill in these
25 experiments. Really he's addressing the fact that one of

1 the arguments that I make is that because these cells
2 weren't synchronized into the same phase of cell cycle it
3 would be impossible to get the level of cell kill that
4 Bishayee has reported.

5 Q. And as a result of your review of the
6 documentation associated with this experiment, so I'm clear,
7 you concluded what?

8 A. I conclude that that is not the case.

9 Q. That is not the case why?

10 A. Because as we will -- let me take that -- you
11 initially referred to the -- what we're talking about is
12 deoxycytidine being present there or not. The deoxycytidine
13 being present in the Harapanhalli experiments showed that if
14 he had the deoxycytidine present you'd have increased cell
15 kill. That is because the deoxycytidine prevents the
16 tritiated thymidine mediated cell block, which in some
17 respects is one of the foundations of the idea that Bishayee
18 could not generate those data from his experimental design
19 because the deoxycytidine was not present and the tritiated
20 thymidine would cause a cell cycle block.

21 Q. Insofar as cell synchronization, however, do
22 you agree or disagree with Dr. Feinendegen?

23 A. I disagree that these cells were synchronous.
24 There's no evidence from the experimental protocol that Dr.
25 Bishayee used that suggests that there'd be any level of

1 cell synchronization in that population.

2 MR. PINCUS: Just give me a minute, John.

3 BY MR. PINCUS:

4 Q. I just want to be clear. I wanted to be
5 clear insofar as you gave a response to one of Mr. Leonard's
6 questions and I know he questioned you a little further when
7 you used the term you were comparing apples and oranges.

8 Do you recall testifying to that effect?

9 A. Yes.

10 Q. Can you explain to me again, you know, why it
11 is you used that analogy?

12 MR. LEONARD: Objection. Asked and answered.

13 Q. You may answer.

14 A. Okay. I was referring to essentially the
15 experimental design. The way we -- interpretation is really
16 based on what is the question you are asking. The
17 experiments that Dr. Feinendegen refers to and the same as I
18 refer to were designed to show blockage of cell cycle by
19 thymidine. Those experiments were designed to show if we
20 give these concentrations of thymidine do we see cell block.
21 That is what was hypothesized, that is what was seen and
22 that is what was presented.

23 The experiments that Dr. Bishayee did using
24 tritiated thymidine is not looking at cell cycle effect,
25 it's looking at the effect of tritiated thymidine in terms

1 of your radiating cells to see what consequence that does
2 have on cell survival. So, therefore, really you have a
3 completely different readout, completely different
4 experimental design, completely different approach.
5 Therefore, you cannot compare the two responses.

6 Q. I understand now. Thank you. That's all I
7 have.

8 Oh, one second. Also when you were
9 questioned in regards to your review of the internal
10 committees of UMDNJ and the ORI and you read the report, do
11 you recall in reviewing those materials and the
12 investigatory report of the committees, that they identified
13 the data that they were relying upon?

14 A. Can you re-ask that one again?

15 Q. Sure. Was it your understanding that the
16 internal -- the university internal committees and ORI had
17 available all of the experiments that were undertaken, the
18 20 or 22 experiments that you've identified and which you
19 have, you know, reviewed and analyzed, at the time they
20 rendered those determinations?

21 MR. LEONARD: Objection, foundation.

22 Objection to form.

23 Q. You may answer.

24 A. It's my understanding they did not.

25 Q. That's all I have.

1 MR. PINCUS: John, do you have anything else?

2 MR. LEONARD: I do, very quickly.

3 REDIRECT EXAMINATION BY MR. LEONARD:

4 Q. Dr. Robbins, you mentioned reading a number
5 of depositions in preparation for today's testimony. Did
6 you read the deposition of Dr. Azzam?

7 A. I did.

8 Q. And did Dr. Azzam's deposition influence or
9 form the basis of any opinion or conclusions that you
10 rendered here today or in your report?

11 A. It didn't change the opinion that I have in
12 my report.

13 Q. Okay. Did you agree with generally his
14 testimony regarding the facts at issue?

15 A. I think his opinion to me failed to address
16 the concerns that were raised and were addressed in my
17 report.

18 Q. And what concerns were those, if you can?

19 A. I'd have to read -- I apologize. I'd have to
20 read his deposition again because I read that a long time
21 ago if you want to ask me specifics on it.

22 Q. Okay. You mentioned a Cleaver book article
23 and I don't see the name Cleaver, unless I'm missing it, in
24 your references.

25 A. No, that was not -- that was not -- I was not

1 aware of that prior to the deposition because, you know, as
2 you'll see in my deposition, I don't actually directly
3 address the question of thymidine pool. That was really
4 generated by Dr. Feinendegen. So it was after seeing his
5 report and obviously realizing that that was a major
6 platform that I then looked in more detail on that topic.

7 Q. Did you not recognize that to be a
8 significant factor until it was raised by Dr. Feinendegen?

9 A. I didn't think -- it's irrelevant because of
10 the data that I already looked at showed concentrations
11 lower than had been used by Dr. Bishayee still perturbed the
12 cell cycle. So to my mind the information that I'd read
13 reinforced my opinion that there would be a perturbation.

14 Q. Okay, but you felt a need, after reading Dr.
15 Feinendegen's report, to go research the issues?

16 A. He is an expert in that area. I wanted to
17 make sure that I was correct.

18 Q. What areas do you believe he is an expert?

19 A. He's an expert in biochemistry and looking at
20 nuclear-type -- the use of tritiated thymidine in radiating
21 biology expert and experiments.

22 Q. That's what we're talking about in this case?

23 A. So I do not, you know -- I clearly recognize
24 that he is an expert in that area, but also, to my mind, he
25 has failed to address the concerns. The issues he raises,

1 I believe, are incorrect. And I repeat again, clearly the
2 data and literature suggests that tritiated thymidine does
3 perturb the cell cycle. If you don't have the deoxycytidine
4 in there, you're still going to perturb the cell cycle.
5 There was no attempt to synchronize the cells. Nobody -- I
6 think 22 experimental attempts to reproduce Bishayee's data
7 all failed. You can't reproduce those data.

8 And then we have Dr. Pitt's report and
9 deposition which suggests, you know, that we can do very
10 careful with cisco analysis, some of which are carried out
11 by the same NIH do, those data clearly appear to be
12 fabricated.

13 Q. Did you review a lot of additional reference
14 material after reading Dr. Feinendegen's deposition and
15 report?

16 A. I guess what do you mean by a lot?

17 Q. Well, how much did you review? I'm a lawyer
18 so...

19 A. I think I looked at maybe, you know, half a
20 dozen papers, including the book from -- I looked at
21 Cleaver's work.

22 Q. Okay.

23 A. Really I focused just on that question of the
24 thymidine or the thymidine pool.

25 Q. Do you know the names of the articles that

1 you looked at besides the Cleaver article and book.

2 A. I don't recall them, no.

3 Q. Okay.

4 MR. LEONARD: Shelly, I assume Dr. Robbins is
5 going to want to testify on those subjects.

6 MR. PINCUS: Yeah. If you want us to give
7 you that list, just put it in a letter, Scott. I'll get you
8 those citations. Again, I believe it's in the body of the
9 materials that we have, but we'll specifically identify it
10 for you. I have no problem with that.

11 MR. LEONARD: Okay.

12 BY MR. LEONARD:

13 Q. That's all I have. Thank you very much for
14 your time. I hope you enjoy your flight back.

15 A. Thank you very much.

16 MR. FLYNN: Thank you, Dr. Robbins.

17 THE WITNESS: Thank you.

18 (Witness excused.)

19 (Deposition concluded at approximately 11:36
20 a.m.)

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C E R T I F I C A T E

I, MARIA F. PIOTROWSKI, a Certified Court Reporter and Notary Public of the State of New Jersey, certify that the foregoing is a true and accurate transcript of the testimony of DR. MICHAEL ROBBINS, the aforesaid first duly sworn to by and before me.

I further certify that I am neither attorney nor counsel for, nor related to or employed by any of the parties to the action in which this deposition was taken; and further, that I am not a relative or employee of any attorney or counsel employed in this case, nor am I financially interested in this action.

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