

IN THE CIRCUIT COURT OF THE CITY OF ST. LOUIS  
STATE OF MISSOURI  
The Honorable Timothy J. Boyer

JOHN L. DURNELL,	)
	)
Plaintiff,	)
	)
vs.	) Cause No. 1922-CC00221
	)
MONSANTO COMPANY,	)
	)
Defendant.	)

TRIAL TRANSCRIPT

Tuesday, October 17, 2023

Volume 10B

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**CROSS-EXAMINATION**

BY MR. FRAZER:

Q Dr. Tomasetti, good afternoon, sir.

A Good afternoon.

Q My name is Roe Frazer. I have the honor and distinction of representing John Durnell in this case.

Good afternoon, ladies and gentlemen of the jury. Your Honor, may it please the Court, learned counsel.

1 Dr. Tomasetti, your little exercise that you  
2 just did with both of these boards, your addition of NHL  
3 was in neither one of your published articles; right?

4 A Well, there is NHL in the one that you're  
5 holding on the right in the yellow.

6 Q You added the dot for NHL here live in the  
7 courtroom, didn't you?

8 A I was saying CLL is one type of NHL, and it's  
9 on the figure.

10 Q Is this your dot that you added?

11 A Yes.

12 Q It's been a while. I just want to know. Is  
13 that your dot?

14 A Yes.

15 Q That is not in your article?

16 A No.

17 Q Is the circle that you drew, that's not in  
18 your article, is it?

19 A No.

20 Q There's nothing peer reviewed on either one of  
21 those dots, are there, sir?

22 A Those dots were not on the figures.

23 Q They're non peer-reviewed; right?

24 A Those dots were not peer reviewed. They're  
25 not on the figure.

1 Q So the only thing about NHL on these two big  
2 beautiful colored artsy charts were not peer-reviewed?

3 A That's not true. CLL was peer reviewed and  
4 it's NHL.

5 Q The NHL dots you put on both these charts were  
6 never peer reviewed; right, sir?

7 A The dots I put on the chart were not peer  
8 reviewed. You're correct.

9 Q The only peer review of these charts have been  
10 Monsanto's lawyers; right?

11 A Excuse me. I don't understand the question.

12 Q The only peer review that you got of those two  
13 dots you put on those two charts are Monsanto's lawyers;  
14 correct? They're the only ones that reviewed that with  
15 you?

16 A They didn't review it. I put it. That's  
17 my -- it's my analysis.

18 Q Well, let's talk about that.

19 We saw your slide show. Let's pull up his  
20 slide show and let's look at it real quick.

21 Got it, Ed? Just pick any slide. I don't  
22 care.

23 Go to the next one. All right.

24 Did you come up with this blue border and this  
25 font for this slide?

1 A The font?

2 Q Yes, sir.

3 A No.

4 Q Because it looks just like Donna Farmer's.  
5 Have you ever met Donna Farmer?

6 A Dana-Farber, the two people that found the  
7 cancer center?

8 Q Have you ever met Donna Farmer of Monsanto?

9 A Oh, so I thought you were saying Dana-Farber.  
10 I apologize.

11 No, I didn't meet anyone from Monsanto, I  
12 don't believe so.

13 Q My southern accent is kind of like your  
14 accent. We may have a little issue here.

15 A Mine is worse.

16 Q Did you compare this font and this color to  
17 the opening statement slide show of Monsanto's lawyers?

18 A No. I didn't see any of the opening  
19 statements by Monsanto lawyers.

20 Q Didn't see any of the opening statements.  
21 Let's talk about your articles.

22 I got an outline here, but I'm just going to  
23 go through some of your articles right now because  
24 they're -- I want to show the jury a few things.

25 D3651. Do you have that, Ed?

1           Let's go to the page marked D3651.24.

2           And let's, let's make -- enlarge that at the  
3 top, starting with "Cristian Tomasetti." Do you see  
4 that, Ed, about six or seven lines from the bottom of  
5 that paragraph.

6           I'm going to read this, and you tell me if I  
7 read it right. "Cristian Tomasetti: CT" --

8           Those are your initials; right?

9           A     Correct.

10          Q     "Is a consultant to Bayer and Johnson &  
11 Johnson."

12          Did I read that right?

13          A     Correct.

14          Q     Is that true or false?

15          A     It's true.

16          Q     It's true. You wrote that; right?

17          A     It was true at that time.

18          Q     You wrote it; right?

19          A     Yes.

20          Q     All right. Because I thought you were asked  
21 if a plaintiff's lawyer, I guess me, came up and asked  
22 you about Johnson & Johnson, the answer would be no.

23                 That's in your paper, isn't it?

24                 MS. COOK: Your Honor, this is a  
25 misrepresentation of my question.

1 MR. FRAZER: I'm on cross, your Honor.

2 THE COURT: Well, I don't think I understood  
3 the question. Will you re-ask it?

4 BY MR. FRAZER:

5 Q Dr. Tomasetti, you do paid work for Johnson &  
6 Johnson, don't you, sir?

7 A I did for a period of about several months as  
8 a consultant. I thought the question I was asked if it  
9 was -- I was an expert witness or if I wrote an expert  
10 report, which the answer is no.

11 Q What's your definition of a consultant?

12 A I can tell you what I did exactly for that  
13 case --

14 Q Sure.

15 A -- which is even more precise, and I just read  
16 some of literature for them and expressed some of my  
17 opinions, and it never went beyond that.

18 Q For Johnson & Johnson?

19 A For Johnson & Johnson.

20 Q On Johnson's Baby Powder?

21 A Yes.

22 Q Johnson's Baby Powder and the role of cancer?

23 A Yes.

24 Q Now, were you hired by Johnson & Johnson the  
25 company or were you hired by Johnson & Johnson's

1 lawyers?

2 A I was -- I was contacted by a law firm that I  
3 guess represented Johnson & Johnson.

4 Q Was it Goldman Ismail?

5 A No.

6 Q No.

7 Now, you list that you were a consultant to  
8 Bayer?

9 A Yes.

10 Q Bayer what?

11 A Bayer the company.

12 Q Bayer AG in Germany?

13 A Bayer the company. I don't think I said AG.  
14 It's just the company.

15 Q The Bayer company.

16 What compensation have you received directly  
17 from Bayer company?

18 A I think we -- I communicated that. It's  
19 about, over the period of four years working on this, on  
20 the Roundup, it's about 500,000.

21 Q \$500,000. But you didn't get it from Bayer.  
22 You got it from Ms. Cook's law firm, didn't you?

23 A Certainly not.

24 Q The check didn't come from Goldman Ismail?

25 A The check -- I would have to check. I believe



1 it came from -- yeah, it may have come from that law  
2 firm that represents Bayer, yeah.

3 Q Yeah. Because the only reason you ever got  
4 involved in what you're testifying to in this case with  
5 regard to Monsanto is because of lawyers from Goldman  
6 Ismail called you on the phone one day; right?

7 A Correct. Lawyers -- well, sorry, actually no.  
8 To be precise, they sent me an email, asking for my  
9 opinion on Roundup.

10 Q Lawyers from Ms. Cook's firm sent you an email  
11 and wanted to get your opinion; right?

12 A Correct.

13 Q And four years later you've made half a  
14 million dollars; correct?

15 A Correct.

16 Q And you get -- you've been paid all day for  
17 sitting in that chair right now at \$900 an hour; right?

18 A Correct. I'm paid \$900 an hour.

19 Q Even when we're on break?

20 A I guess it depends on how you count that.

21 Q You're the one day that -- you draft the  
22 bills, don't you?

23 A Right. I don't, I don't charge for the time  
24 I'm meeting. That's -- since I would have to be it  
25 anyway.

1 Q You don't charge for your travel time?

2 A Yeah, if it's travel that I would be using,  
3 being a professor at my job, and instead I have to be on  
4 airplane, yes, I charge for that time.

5 Q You charge for your hotel expenses?

6 A The hotel is paid, yes. I don't pay for the  
7 hotel, of course, since I wouldn't be in the hotel if it  
8 wasn't for this, for the case.

9 Q You don't pay for the airline fare, do you?

10 A As I said, I don't pay for the flight and  
11 hotel since it's, it's something that I would incur as a  
12 cost.

13 Q Do you fly commercial?

14 A Excuse me?

15 Q Do you fly commercially?

16 A Yeah.

17 Q And do you fly in the first-class section?

18 A There have been times. The majority of the  
19 times have been not in first class, but there have been  
20 sometimes that, due to the situation, it was found a  
21 first-class flight, yes.

22 Q Now, if we flip forward, we'll come back to  
23 this one, because there's some other stuff in there.  
24 But if we flip forward to that last article that  
25 Ms. Cook showed you, D3707.

1 Do you remember that one?

2 A The last article? Yes.

3 Q There's no disclosure about Bayer or Johnson &  
4 Johnson in this article; correct?

5 A I don't recall.

6 Q Well, I'll hand you the article that -- I'm  
7 going to hand you the notebook that Ms. Cook handed me  
8 and ask you where, if anywhere, in this article --

9 A Yeah, I think I have it.

10 Q It would be toward the back where that stuff  
11 kind of goes; right?

12 A It is there.

13 Q It is there? Can you show me where it is,  
14 because I sure couldn't find it.

15 A It's the very last, page 10 at the bottom, it  
16 says "Competing Interest," which means basically  
17 potential conflict of interest. And it says:

18 "The author has declared the following  
19 competing interest under a license between Exact Science  
20 and Johns Hopkins, CT," which is me, "is entitled to  
21 royalties and distribution. CT is a member of the  
22 scientific advisory board of PrognomiQ. CT is also a  
23 paid consultant to Bayer."

24 MR. FRAZER: What page again?

25 MS. COOK: Your Honor, I don't think they're

1 showing the actual --

2 THE COURT: It's 3707.10, onto 11.

3 THE WITNESS: Yeah, right there at the bottom.  
4 It starts -- right "Competing Interest," the last.

5 So it starts by -- I declare, first of all, my  
6 agreement with Johns Hopkins University for the  
7 blood test, and then, if you go to the next page,  
8 right there, yeah, I report that.

9 BY MR. FRAZER:

10 Q Paid consultant to Bayer AG this time; right?

11 A Yes. I thought it's AG.

12 Q Bayer AG. So not Johnson & Johnson and not  
13 Bayer company?

14 A Johnson & Johnson.

15 MS. COOK: Your Honor, Bayer and Bayer AG are  
16 the same thing.

17 THE COURT: All right. I'll let --

18 MR. FRAZER: We'll stip to that if they want  
19 to.

20 THE COURT: I'll let Dr. Tomasetti answer the  
21 question.

22 THE WITNESS: So Johnson & Johnson, the reason  
23 why it's not there is because it's been, at this  
24 point, three or four years and, really, there's  
25 been nothing except for an opinion to those

1 lawyers.

2 And for respect to your question about Bayer,  
3 I think, I think what I did is I Googled that and  
4 probably said it's called Bayer AG and so I wrote  
5 it like Bayer AG.

6 BY MR. FRAZER:

7 Q You Googled it?

8 A Yeah, I probably did.

9 Q Nowhere in either one of the ones we've looked  
10 at do you disclose that you're a paid litigation  
11 consultant for a law firm that defends Monsanto and  
12 Bayer in Roundup cases, do you?

13 A I don't think that is in any way required.  
14 And, in fact, I think it's more general to state that I  
15 consult for Bayer since Bayer has many interests.  
16 Rather than just say Monsanto, then I may be accused  
17 that I'm not reporting Bayer.

18 Q That's right. Because Bayer makes aspirin;  
19 right? Somebody could read this and think you're  
20 consulting on Bayer aspirin; right, sir?

21 A As I said, Bayer makes many things and I think  
22 being general is more precise.

23 Q You sure don't have the word "Monsanto"  
24 anywhere, do you?

25 A I believe there are articles out there mention

1 that I work for Monsanto, so I don't think it's a secret  
2 in any way.

3 Q I'm talking about your two articles that you  
4 put into evidence through Ms. Cook's examination. You  
5 don't mention the word "Monsanto" in there, do you, sir?

6 A These two articles, to be even more general,  
7 mention Bayer instead Monsanto. As I said, I gave  
8 interviews where I specifically talked about Monsanto.

9 Q Nobody reading these two articles would know  
10 that you work for a litigation defense firm in Chicago,  
11 Illinois named Goldman Ismail who are defending Monsanto  
12 in Roundup litigation, would they?

13 A I disagree. I think if they read Bayer, and  
14 if they are interested in my conflict of interest, they  
15 can ask further. They can, in fact, correspond with the  
16 author, which is me, asking for more details if they  
17 need it.

18 Q I thought you told the jury earlier this  
19 morning that since you're a mathematician, you try to be  
20 very precise.

21 Did I hear that right or did I not hear that  
22 right?

23 A I think that putting Bayer is more precise  
24 because it's more comprehensive.

25 Q I noticed that in your -- the last two

1 articles we talked about, 3707 and 3651, in your  
2 reference tables, you don't list any of the data tables  
3 that you've listed in your 2015 or 2017 articles. You  
4 don't list UK Cancer Research as a database.

5 And that stands for United Kingdom; right?

6 A UK, yes.

7 Q United Kingdom database is what it is. It's  
8 about folks that live in England; right?

9 A In the United Kingdom, yes.

10 Q Okay. Not the U.S.?

11 A No. We chose, as I explained, we chose to use  
12 the UK because since it is a national health system,  
13 their data were even more precise.

14 Q But you told the jury that the best database  
15 on the planet earth was the SEER database. Why didn't  
16 you use the SEER database?

17 A When I did the study on United States, I use  
18 SEER data, of course.

19 Q I asked you why didn't you use the SEER  
20 database for the 2015 to 2017 articles. Why did you  
21 rely on one from England?

22 A No, I think there is some confusion. In the  
23 2015, I used data from the SEER database in United  
24 States of America. In the 2017, I still used SEER data  
25 from United States of America, but then for the analysis

1 of the proportion of mutations, I used data from the  
2 Cancer Research United Kingdom. Those are two different  
3 things.

4 Q And you used data from a study called Partin,  
5 P-a-r-t-i-n; correct?

6 A Yes.

7 Q And Partin used data from the UK Cancer  
8 Research database; right?

9 A I believe so, yes.

10 Q And neither Partin nor the UK Cancer Research  
11 databases are in either of these last two articles that  
12 you wrote, 3651 or 3707, are they?

13 A I think there is some confusion, because I did  
14 not use that -- those are not -- you're talking about  
15 completely different analyses. I don't see why I would  
16 use them.

17 Q That's my question. I'm not asking you why  
18 did you --

19 A Well, I did not use them. It was not  
20 relevant. It was completely not relevant. If you  
21 understand what that paper is about, there was  
22 absolutely no --

23 Q Actually, I don't, but we'll talk about it a  
24 little bit more.

25 Then this long document, which your counsel



1 over here said was 88 pages long, that's Exhibit 2333?

2 A Yes.

3 Q That's your supplementary materials?

4 A Yes.

5 Q And you have to get to page 88 before the  
6 word -- the acronym or word non-Hodgkin's lymphoma, NHL  
7 is anywhere in that database; right?

8 A I actually would have to check. I think it  
9 may be before that page.

10 Q All right. Let's roll with it then. Start  
11 looking at the database. It starts on page 2333.26.

12 A Can I ask which number is -- oh, I think I  
13 found it. 2333?

14 Q Yes, sir.

15 And while you're looking, you do know that  
16 you've made an edit to that document five years after  
17 you originally published it, don't you, sir?

18 A An edit to which document?

19 Q Pardon?

20 A An edit to which document? This document?

21 Q Yes, sir.

22 A You tell me which edit. I'm not aware of it.

23 Q That last page that's NHL on it. 88.

24 A I made an edit on that page?

25 Q That's when you put NHL in that exhibit, that

1 document. That supplementary what's called --

2 Pull up 2333, the cover, please, so the jury  
3 can see what it is. I want them to remember this.

4 Ms. Cook blew this up. Can you blow up that  
5 title, please, Ed.

6 Supplementary Materials. Stem cell divisions,  
7 somatic mutations, cancer etiology, and cancer  
8 prevention; right?

9 A Yes. Correct.

10 Q You added that last page, 88, five years after  
11 this was published; right?

12 A No, certainly not.

13 Q You added it after it was published, didn't  
14 you?

15 A If the journal Science changed something  
16 afterwards, that I don't know, but certainly not five  
17 years later.

18 Q You made changes to your 2015 article after  
19 you met with the lawyers from Goldman Ismail, didn't  
20 you, sir?

21 A Absolutely not. That's --

22 Q You --

23 MS. COOK: Excuse me, your Honor. Can he  
24 finish his answer?

25 THE COURT: I think he's denied it.

1 Do you have another question?

2 BY MR. FRAZER:

3 Q You made changes to your 2017 paper after you  
4 met with the lawyers from Goldman Ismail, didn't you?

5 A Absolutely not.

6 Q All right. We'll look at your prior testimony  
7 a little bit later.

8 You've been deposed how many times in Roundup  
9 litigation?

10 A A few. I don't remember how many. Maybe six,  
11 seven times maybe.

12 Q Six or seven times.

13 You testified in court before in trials,  
14 haven't you?

15 A Yes.

16 Q How many times?

17 A Five, six times I will say.

18 Q To borrow my learned counsel Mr. Brown's  
19 terminology, it's not your first rodeo with Ms. Brown --  
20 with Ms. Cook, is it?

21 A If you want to put it like that, that it's the  
22 second time that she was the lawyer on a case with me,  
23 yes.

24 Q Okay. Now, let's look at -- by the way, on a  
25 couple of occasions you said in articles you published

1 you put your student's name first because they did a lot  
2 of the work; right?

3 A In many studies, when, when you have a student  
4 working with you, they, they execute a lot of the work,  
5 whether it's, you know, sequencing or analysis, so,  
6 yeah, you -- to honor their -- the amount of work they  
7 did, it's customary to put some of the students first  
8 and then you put yourself at the end of it.

9 Q So some student that did a first draft did a  
10 really good job on the paper, you would put them ahead  
11 of you; right?

12 A Oh, no, there is -- the students never do the  
13 first draft.

14 Q Okay.

15 A At least not with me. I would never give them  
16 the responsibility.

17 Q Would you put -- let me ask you this. People  
18 that do the draft, the first draft, do you put their  
19 name on the paper?

20 A Well, anyone that does the first draft has to  
21 be in the paper. I don't know of any instance where a  
22 scientist that did the first draft didn't show up in the  
23 paper. At least in my work.

24 Q Okay.

25 A Unless it was consulting for some scientist.

1 I don't know. Not in my lab.

2 Q Let's go to your Exhibit D838. It's the  
3 National Cancer Institute document.

4 Do you recall that one?

5 A Yes.

6 Q And let's go to page 838.9 which you talked  
7 about with Ms. Cook.

8 A Yes.

9 Q And let's blow up that top table there,  
10 please, so the jury can see that.

11 The top line is NHL cancer incidence; right?

12 A Yes, essentially, yeah.

13 Q The bottom line is cancer death?

14 A Yes.

15 Q NHL?

16 A Yes.

17 Q And you do know that, because you've done some  
18 work in this area, that the rate of survival for NHL  
19 cancer has gone up over the last few years; right?

20 A A little bit.

21 Q Because of new therapies; right?

22 A Certainly a little bit because of new  
23 therapies, maybe a little bit of because of earlier  
24 detection.

25 Q Yeah, there was no stem cell therapy back in

1 1980 or '90; right?

2 A I would have to look.

3 Q Yeah.

4 Now, we look at the top line, that's the rate  
5 of incidence of new cases. That's what it says; right?

6 A Yeah.

7 Q And you said it was flat?

8 A After '95 it's basically flat, yes.

9 Q Well, you're telling me it doesn't keep going  
10 up, or is that an optical illusion?

11 A I think it's a little bit of an optical  
12 illusion. I think the value in '95 is in fact maybe  
13 slightly higher than the value in 2018.

14 Q So SEER, the gold standard database, has  
15 created an optical illusion there. Is that what your  
16 testimony is?

17 A No one creates an optical illusion. It's just  
18 the data may look to you -- they don't look to me, but I  
19 guess they look to you like it's going up. I'm saying  
20 it's easy to verify by looking at 1995, and I believe, I  
21 would have to use the meter to draw a line, but I  
22 believe that value is likely above the 2018.

23 So if you see an increase, then it's an  
24 optical illusion that your eyes create.

25 Q If you look at 1980, we can agree that

1 non-Hodgkin's lymphoma cases in the U.S. have doubled  
2 over that period of time, 1980 to 2016; correct?

3 A 1980 to 2016, yeah. If you, if you consider  
4 like the full interval.

5 Q Yeah.

6 A Because of the increase up to 1995, yes.

7 Q Double?

8 A Yeah. Approximately, I would say -- let's  
9 see. You said 1980?

10 Q Yes, sir.

11 A So actually, no. Then, because 1980 I would  
12 place it at around 13, and 2016 already, so the last  
13 number, '16, 2016 it's 20, so I would say about a 50  
14 percent increase. Definitely not double.

15 Q About 50 percent?

16 A Yeah.

17 Q If you had 100 of them, you'd have 150 of  
18 them; right?

19 A Sorry?

20 Q If you had 100 cases --

21 A Yeah.

22 Q -- in 1980, you'd have 150 in 2016; correct?

23 A Correct.

24 Q And we human beings haven't doubled in size  
25 during that same period of time, have we?

1           A     Oh, certainly not. The height effect is  
2 probably relatively small.

3           Q     Or organs are pretty much the same size they  
4 were today as they were -- in 2016 as they were in 1980;  
5 right?

6           A     There has been some growth. It's not --  
7 height went up, but as I said, it's a relatively small  
8 factor.

9           Q     The replication of our DNA has stayed the  
10 same; right?

11          A     Yes. As I explain, it's the quality of the  
12 data that changed.

13          Q     Now, there's no mention of NHL in your 2015  
14 article; correct?

15          A     No, that's not correct. There is CLL, which  
16 is a type of NHL. So it's one subtype is in 2015 only.

17          Q     There are over 60 subtypes of NHL?

18          A     Correct.

19          Q     One subtype, you say is CLL, was in your 2015  
20 paper?

21          A     Correct. I just wanted to be precise.

22          Q     Great.

23                   2017, same thing; right?

24          A     No. 2017 we have NHL.

25          Q     You had NHL?



1 A Yes.

2 Q All NHL?

3 A All NHL.

4 Q You didn't break it down by subtype?

5 A Because it was -- these are two different  
6 things. It's not -- it's a different analysis using a  
7 different approach, looking at different things.

8 Q There are all kinds of subtypes of breast  
9 cancer; right?

10 A Breast cancer?

11 Q Uh-huh.

12 A What do you mean? NHL subtype of cancer?

13 Q No, breast cancer. There are different types  
14 of breast cancers.

15 A Sorry? I didn't hear.

16 There are different subtypes of breast cancer.

17 Q Some of them don't have the BRCA gene that you  
18 mentioned; right?

19 A Right. Yeah, you can divide. In fact, even  
20 the subtype of NHL you can divide them by different  
21 molecular. So you can go as -- you can subtype as much  
22 as you want basically.

23 Q Yeah.

24 Is this what you call statistics and math or  
25 what do you call these equations that are in your

1 articles? What are those? Is it math and statistics or  
2 is it just statistics or is it just math? What is it?

3 A You're referring to equations of -- found in  
4 my papers?

5 Q Yeah.

6 A Some are statistical, some are, you know,  
7 differential equation, mathematical -- you can define  
8 them all mathematical equations, but that's just a part  
9 of that analysis. A lot of sequencing too.

10 Q When you were first up there on the stand you  
11 were asked about when you moved to the USA, and you said  
12 one year, and then you changed it to another year?

13 Do you remember that?

14 A I apologize. Yeah. I made a mistake. I  
15 moved in 2002.

16 Q No, that's okay. Because it happened such a  
17 long time ago. It's easy to confuse when you move into  
18 a house here or there; right, sir?

19 That's fair; right?

20 A As I said, I -- the confusion was in between  
21 2021 and 2002, because that's when I met my wife.  
22 Initially she came to Switzerland, and I was thinking  
23 about my wife being the reason of coming to America.  
24 But we came to America in 2002.

25 Q Yeah, I wasn't criticizing you really at all.

1 It's easy to get confused about something that happened  
2 22 years ago; right?

3 A Of course it can happen, yes.

4 Q Okay. That genetic sequence AT and GC,  
5 whenever those genes don't end up with the ones they're  
6 supposed to be with, that's what's called translocation;  
7 right?

8 You get an A that attaches to a G, for  
9 instance.

10 A No.

11 Q No. You don't call that translocation?

12 A Definitely not, no.

13 Q Translocation can lead to mutations.

14 Would you agree with that?

15 A Translocation, if you want, is a mutation, a  
16 mutational event.

17 Q The graphic that we saw a person at a  
18 keyboard, did you create those graphics?

19 A Yes.

20 Q You did?

21 A I did with the help of -- that was done at  
22 Hopkins, when we were communicating our results to the  
23 general public. We had a graphic person that helped us  
24 develop that drawing, those drawings.

25 Q Okay. And basically what I heard you say is

1 that somebody that's at a keyboard that is sleepy,  
2 hungover, or all thumbs can make errors; right?

3 A What is the all -- the last thing, all thumbs?

4 Q All thumbs, yeah.

5 A Oh, old thumbs. Sorry.

6 Yes, of course. If -- well, old thumbs, I  
7 would say, actually no, that's age. But the others are  
8 environmental factors, yes.

9 Q But just using those analogies, if you type  
10 something in wrong with your thumb on your phone and  
11 you've got your auto correct on, it's going to correct  
12 that for you; right?

13 A Sometimes. That's the point.

14 Q Okay. We can agree that all people do not get  
15 cancer; right?

16 A All people don't get cancer. Well, in a  
17 sense, I think the majority of the field will answer  
18 that question saying that we believe we will all get to  
19 cancer if we live long enough. For example, there are  
20 studies showing that essentially all men end up with  
21 prostate cancer, adult at very old ages. It's just that  
22 some don't develop it enough before they die of  
23 something else.

24 Q Old men are unlucky?

25 A Sorry? Old men?

1 Q Old men are unlucky?

2 A Yeah. It's -- it's a part of life, the fact  
3 that we accumulate these mutations, unfortunately.

4 Q Do you ever watch The Today Show where they  
5 celebrate people across the United States who turn 100?

6 A No, sir, I didn't see that.

7 Q Okay. Did you ever consult with a scientist  
8 by the name of Robert Tarone?

9 A No.

10 Q You're not an epidemiologist?

11 A Well, I disagree with that. Depends, if you  
12 mean a, you know a card-carrying, like a Ph.D. in  
13 epidemiology, then no, I'm not. Or if epidemiologist is  
14 someone that studies -- so cancer epidemiologist is  
15 someone that studies the epidemiology of cancer, and  
16 that's a lot of my research is exactly about that.

17 So I don't have in Ph.D. in epidemiology, but  
18 I have --

19 Q You're not an epidemiologist. In all these  
20 papers, to be precise, you never list yourself as an  
21 epidemiologist, do you?

22 A We -- I don't know of any scientist that list  
23 what they are in a paper. So no one, no one mentions  
24 what they are in the paper.

25 Q You're not a hematologist, a doctor that's

1 specialty is blood, human blood?

2 A I'm not an M.D., if that's what you mean. Of  
3 course I am a person that studied a lot on blood cancers  
4 and researched them and made some discoveries about  
5 them.

6 Q You're not a toxicologist?

7 A Same answer. I don't have a Ph.D. in  
8 toxicology, but I have studied the effects of, you know,  
9 carcinogens. It's one of my specialties.

10 Q You're not a medical doctor licensed in any  
11 state to practice medicine?

12 A No.

13 Q You don't work with nurses and other health  
14 care professionals tending to patients on a daily basis,  
15 do you?

16 A I do not tend patients, no.

17 Q You don't have any patients that you tend to;  
18 right?

19 A So, again, technically I'm not an MD, so I  
20 don't have patients. I think I showed you a study where  
21 patients were given the therapy based on essentially  
22 what my analysis decided, but they were not my personal  
23 patients.

24 Q That was my question. They weren't your  
25 patients. You were just taking data --

1 A I want to be precise.

2 Q -- generated from a medical study; right?

3 A Sorry?

4 Q You were just taking data generated by whoever  
5 those people were in the study; right?

6 A No, I took the blood of those patients and  
7 analyzed that blood and gave a number to those patients.

8 Q You're not a chemist?

9 A No. I don't have a Ph.D. in chemistry.

10 Q You're not a pathologist, doctor of pathology?

11 A I don't have a Ph.D. in pathology.

12 Q You've never worked as a consultant for the  
13 Environmental Protection Agency?

14 A No.

15 Q You've never made a determination to a  
16 workers' compensation board of any state governments as  
17 to whether a occupational-related injury or disease is  
18 covered by the State workers' compensation laws;  
19 correct?

20 A No. Not yet at least, no.

21 Q You never did any causation assessments for  
22 any 9/11 victims, did you?

23 A I was not involved in the 9/11 victims, no.

24 Q You don't know Mr. Durnell, John Durnell?

25 A I just seen him today for the first time. I'm

1 happy to see him well.

2 Q You didn't read his deposition?

3 A No, I did not read his deposition. I was not  
4 provided with his deposition.

5 Q You didn't look at his medical records?

6 A No. I just asked some general questions about  
7 his -- how it happened and what his health status. So  
8 very general information.

9 Q You never been to the Soulard neighborhood  
10 here in St. Louis?

11 A No.

12 Q You don't know who Richard Eaton is, do you?

13 A Richard Eaton? No. Doesn't sound familiar.

14 Q Do you know a Dr. Hu here in St. Louis?

15 A No.

16 Q Has a Dr. Hu in St. Louis ever asked you for  
17 any sort of consultation or advice?

18 A No.

19 Q You said in your deposition you have no basis  
20 to criticize Dr. Aronson's opinions in this case;  
21 correct?

22 A At that time, I believe that's what I said, I  
23 had not seen the deposition of Dr. Aronson. Now that I  
24 have seen, at least a part of the deposition, I -- I  
25 have my criticisms of what she wrote about me.



1 Q So --

2 A My research.

3 Q So you hadn't seen it at the time we took your  
4 deposition when we asked you about it; right?

5 A I don't think so, no.

6 Q Have you ever heard the phrase garbage in,  
7 garbage out?

8 A Yeah.

9 Q That's used sometimes in math or research  
10 circles; right?

11 A Yes, sir. It's also used in research, of  
12 course. Not so much in math. By definition, in math  
13 you cannot have garbage.

14 Q And that simply means what you put into  
15 something may tend to tell you what comes out. So the  
16 quality of what you put in is -- strike that.

17 The result of what you put in depends upon the  
18 quality of what you -- strike that.

19 The result of what you have depends upon the  
20 quality of the stuff you put in; right?

21 A Yes. The quality of the data, as I think I  
22 showed today, it's very important for what conclusions  
23 you draw.

24 Q And we can agree that the United Kingdom, it's  
25 about the same geographic size as the State of Missouri;

1 right?

2 A I don't know, actually. I haven't measured  
3 it, but it may be, yeah.

4 Q Do you know that 6 million people live in the  
5 State of Missouri and 66 million live in the UK?

6 A So ten times more people in the UK.

7 Q In the same land mass?

8 A If that's the case, yeah. Okay.

9 Q And the UK is urban in nature. There's no  
10 Nebraska in the UK; correct?

11 A Is what in nature? I'm sorry. I didn't get  
12 the word.

13 Q It is urban in nature.

14 A Urban. UK?

15 Q Yes.

16 A It depends. You know, there is -- I was in  
17 London four days ago so, yeah, it is -- sorry, five days  
18 ago. It is urban in some parts and very country in  
19 other parts.

20 Q Yeah. And there's no states like -- or big  
21 land masses like Nebraska, Iowa, Missouri, Illinois,  
22 where you've got all these fields growing as far as your  
23 eye can see; correct?

24 A You know, I don't want to testify to something  
25 I haven't seen. I would suspect if I went in certain

1 regions in England and Scotland there may be fields that  
2 I cannot see the end of. But I think I understand your  
3 point. The extensiveness that you have here may be  
4 greater.

5 Q So the data set that was take from the UK  
6 Cancer Research and Partin was also based upon data from  
7 the United Kingdom; correct?

8 A At that time yes, that's correct.

9 Q And the Partin dataset was 2010 data; right?

10 A 2011.

11 Q 2011 data. You wrote the article in 2015 and  
12 2017?

13 A Correct.

14 Q In one of your articles you talk about a  
15 hypothetical planet called Planet B.

16 Do you remember that?

17 A Yeah. I would have to review, but I remember  
18 writing something about that, yes.

19 Q Planet B does not exist anywhere; right? It's  
20 hypothetical?

21 A It was a theoretical example, yes.

22 Q It's like the planet on avatar for instance;  
23 right? It only exists in Fantasyland?

24 A Yeah. We were, we were trying to make a  
25 point, so we made up that particular example, yes.

1 Q And you -- you make a point that Planet B is a  
2 planet where it's totally unspoiled, no chemicals, no  
3 disease, nothing. It's just a pristine Planet B; right?

4 A As I said, I would have to remember. It's  
5 been eight years. But, yeah, something along those  
6 lines.

7 Q It sounds kind of like the Garden of Eden.  
8 Can we agree on that?

9 A Yes.

10 Q And in your Planet B hypothetical, you  
11 introduced a chemical agent called -- in your  
12 hypothetical called DDT; right?

13 A I don't think we called it DDT.

14 Q Not DDT. Let's just take Roundup.

15 The last thing you would ever want to put in  
16 the Garden of Eden is Roundup; right?

17 A I don't see any problem with that, actually.  
18 I think I expressed the opposite opinion.

19 Q Okay. Well, you know Roundup kills every  
20 plant it touches; right?

21 A I don't -- I don't -- that's not my  
22 understanding it kills everything it touches.

23 Q You know it's a weed killer; right?

24 A It's a herbicide, yeah.

25 Q And it would kill -- if you didn't have

1 genetically modified seed, it would kill the corn crops,  
2 right, if you sprayed it on a corn crop?

3 MS. COOK: Your Honor, I think we're pretty  
4 far afield from direct here, talking about the  
5 Garden of Eden.

6 THE COURT: I'll say this. If you know the  
7 answer to that question, I'll have you answer and  
8 then we'll move on.

9 THE WITNESS: That's why I was saying that my  
10 understanding is Roundup does not kill everything.  
11 It depends on what.

12 BY MR. FRAZER:

13 Q All right. Have you looked at any studies of  
14 Americans with glyphosate in their urine put out by the  
15 Centers for Disease Control of the United States  
16 government?

17 A I have seen studies of measurements in urines.  
18 I don't remember now which ones specifically.

19 Q You were asked in your deposition about  
20 whether everybody in America had been exposed to  
21 Roundup.

22 Are you familiar with the CDC urine study that  
23 puts the number over 80 percent of Americans have  
24 glyphosate in their urine?

25 A As I said, I don't remember. It could be. I

1 don't remember.

2 Q When you were up here with this little chart  
3 that you added NHL to, both of them -- do you remember  
4 that? We talked about that earlier. Do you remember  
5 that?

6 A Yeah.

7 Q You said, in response to Ms. Cook's question,  
8 you were on that line, that colored dot line, that NHL  
9 was right on the line.

10 That's what you said?

11 A Slightly below or at the line. I think that's  
12 what I said.

13 Q I thought I understood you, in your prior  
14 testimony, to say that as much as 8 percent, even under  
15 your analysis of NHL, and only as low as 3.9 percent was  
16 caused by environmental factors.

17 Did I read that right in your testimony?

18 A Those are not my numbers. Those are the  
19 official number from Cancer Research UK and similarly  
20 from United States studies.

21 Q You say they're not your numbers, but those  
22 are what the numbers you use say; correct?

23 A Those are the numbers what? Sorry.

24 Q That you used say about NHL, that, according  
25 to your calculations, as high as 8 percent of all NHLs

1 in the United States are caused by an environmental  
2 factor, and no lower than 3.9 percent; right?

3 A As again, those are not my calculations.  
4 Those are numbers given to all of us by these large  
5 epidemiological studies. I just took these numbers. I  
6 didn't calculate them.

7 Q The only reason I ask you this is because when  
8 you were up here standing in front of jury, with that  
9 board, you said there's no, zero, under your opinion,  
10 that NHL is caused by anything other than replication  
11 error?

12 Did I not hear you say that?

13 A I didn't say it that way.

14 Q So can you say it the way I suggested, that it  
15 could be as high as 8 percent and no lower than 3.9  
16 percent based upon the datasets that you actually used  
17 and published in your articles that have been moved into  
18 evidence in this case?

19 A What I said is that the data is consistent  
20 with essentially replicative mutations being by far the  
21 major factor; that, you know, there may be a small  
22 effect. I think I shown in my figures both the 8  
23 percent as well as the 3-point-something percent.

24 So it's all consistent. I gave all those  
25 numbers, so I'm not sure I understand what you're asking

1 me.

2 Q My only point is it's not zero percent; right?

3 A The environment? No. We know that there are,  
4 for example, HIV and EB virus, these are very important  
5 factors in NHL for a few selected patients.

6 Q Basically, under your theory that you've told  
7 the jury about today, is there's no need to use any  
8 personal protection equipment with any herbicide,  
9 including formulated Roundup; right?

10 A Oh, I certainly did not say that. There are  
11 plenty of -- there are pesticides, herbicides that we  
12 know are associated to cancer, right, so.

13 Q I'm talking about Roundup.

14 A Oh. So Roundup, if used properly, as I said,  
15 it's not my opinion. It's epidemiology studies showing  
16 that there is no effect. Yes. Correct.

17 Q So you're saying that nobody needs to wear any  
18 personal protection equipment of any kind if they're  
19 using Roundup?

20 MS. COOK: Asked and answered. And, again,  
21 outside of where this witness is testifying.

22 THE COURT: I'll overrule it.

23 If you have an answer, Doctor, go ahead.

24 THE WITNESS: Yeah, I haven't read, or maybe I  
25 did but I forgot now. It's been some time. I



1 haven't read the manual or the instructions of how  
2 you're supposed to use Roundup.

3 I'm pretty sure that Bayer provides some  
4 direction. I don't think you want to -- I think  
5 there is a proper way to use it and, yeah, I don't  
6 see any problem if used properly.

7 BY MR. FRAZER:

8 Q That wasn't my question.

9 A Protection. You asked protection. As I said,  
10 I don't know. It may be that protections are suggested.  
11 I have not read the manual of instruction. But when  
12 used properly, I don't -- I don't see any effect in the  
13 epidemiological studies or in the animal studies.

14 Q That wasn't my question. My question was  
15 simply, under your theory that Roundup doesn't cause NHL  
16 or any other kind of cancer, there's no need for anybody  
17 to use personal protection equipment; right?

18 A Again --

19 Q Your theory.

20 A You are misrepresenting what I'm saying  
21 because first of all -- okay. We can call it theory and  
22 I -- you know, I called it theory myself, because  
23 Einstein theory of relativity is one of the most  
24 beautiful finding in physics and we still call it  
25 theory. So that's fine. We can use theory.

1 But in terms of using Roundup, as I said,  
2 there are things that we need to use properly, and if  
3 instructions are followed, I don't see any effect.

4 I wouldn't -- I don't know what would happen  
5 if concentrations were much higher and we were swimming  
6 in it from night to day. In fact, I think even in soap  
7 you may even end up with cancer on your skin if you swim  
8 in a bubble bath all day long for your whole life.

9 So again, it's all about how you use it, and  
10 as long as you follow standard procedure, I don't see  
11 any effect.

12 Q Okay. You've called IARC the gold standard;  
13 right?

14 A I don't -- I don't know if I did that.  
15 They're certainly an important institution in cancer  
16 research.

17 Q The UK Cancer Research database that you used  
18 relies on IARC Monographs; right, sir?

19 A Among other things, yes. It's just one of the  
20 sources of information, of course.

21 Q And you've said that IARC is an important  
22 institution, a fundamental institution in the world for  
23 cancer?

24 A Absolutely. It plays an important role.

25 Q You've said that IARC bases its

1 classifications of all the available evidence taking  
2 into account the amount, quality, and consistency of the  
3 evidence; correct?

4 A I don't remember, but it seems like you are  
5 reading, maybe from my own deposition or something like  
6 that.

7 Q In fact, IARC is the International Agency for  
8 the Research of Cancer; right?

9 A That's their name. That's the name they gave  
10 themselves, yes.

11 Q You've never served on any IARC working group,  
12 have you, sir?

13 A Sorry?

14 Q You've never served on an IARC working group,  
15 have you, sir?

16 A No. No. At least not yet.

17 Q And nobody at IARC has invited you, since your  
18 2015, 2017 articles have come out, to come and  
19 participate, even as an observer, at an IARC event;  
20 correct?

21 A Many institutions have invited me. Not IARC.  
22 IARC, maybe I'm not surprised, given that they were --  
23 at that time they were critical before further analysis  
24 were provided.

25 Q You read IARC Monograph 112?

1 A I don't remember them by number.

2 Q The one on glyphosate that included  
3 glyphosate --

4 A Yes.

5 MS. COOK: Your Honor, this is not in  
6 evidence. It's hearsay so --

7 MR. FRAZER: He's an expert. He's read it.  
8 It's the IARC Monograph.

9 THE COURT: What's your objection, Ms. Cook?

10 MS. COOK: It's hearsay and not in evidence.

11 THE COURT: I'll let him answer questions  
12 about what he knows about the monograph.

13 MR. FRAZER: Yeah.

14 BY MR. FRAZER:

15 Q You've read it, haven't you?

16 A I read some things from IARC. I don't know if  
17 that's specific volume, so I don't know if what you're  
18 showing me is --

19 Q You've read the volume on parathion,  
20 malathion, diazinon, glyphosate, and tetrachlorvinphos,  
21 if I'm pronouncing that right.

22 You've read that one; right?

23 A I don't -- I don't know that I read all of  
24 those, since only one I believe that among the ones you  
25 read was about glyphosate. But I -- yeah.

1 Q So you did read the part on glyphosate?

2 A As I said, I don't know if what you're showing  
3 me is what I read. I definitely read statements and  
4 research by IARC. I don't know about that document.

5 Is that in some reference list I provided at  
6 any time, I don't know.

7 Q Do you know of more than one IARC Monograph  
8 that addressed the topic of glyphosate?

9 A I haven't checked. I don't know.

10 Q Well, you came in here as the expert. So you  
11 haven't read this IARC Monograph, the gold standard of  
12 the UK Cancer Research?

13 A I don't think it's the gold standard of UK  
14 Cancer Research, first of all, and so much so the UK  
15 Cancer Research didn't even include the results of that  
16 paper, of that monograph on glyphosate.

17 Q Do you know who was on this panel?

18 A The panel for glyphosate?

19 Q Glyphosate.

20 A I'm sure I read the names. I don't remember  
21 right now.

22 Q Do you know there was someone from the United  
23 States Environmental Protection Agency who was from the  
24 National Center for Computational Toxicology, Matthew  
25 Martin?

1           A     As I said, I know I read the names of the  
2 committee. I don't -- I did not remember.

3           Q     Do you know --

4           MS. COOK: Your Honor, I'd ask that if the  
5 witness is going to be questioned that he be  
6 provided a copy of the document.

7           THE COURT: Do you have a copy of the  
8 monograph for the witness?

9           MR. FRAZER: I just asked him if he knew, and  
10 he said he didn't. I'll give it to him.

11 BY MR. FRAZER:

12          Q     There you go -- I'm on the -- if you want to  
13 follow along.

14                 Does this look familiar, by the way?

15          A     It looks like some -- something that I may  
16 have seen parts of it. I don't know.

17          Q     Yeah, it's got a crop-dusting plane on the  
18 front of it. That's kind of hard to forget.

19          A     It's a pretty common picture, an airplane  
20 throwing herbicide on grass.

21          Q     Let's look at the page that starts with who  
22 was on the IARC panel, list of participants.

23                 Let's pull that up, please, Ed.

24                 Do you see that Aaron Blair, scientist  
25 emeritus, overall chair, Occupational Environmental

1 Epidemiology Branch, National Cancer Institute,  
2 Rockville, Maryland USA, listed right there on the front  
3 page?

4 A Yeah, I see that, yes.

5 Q Let's go to the second page.

6 You see at the top there that's Mr. Martin who  
7 it is from the National Center for Computational  
8 Toxicology, the United States Environmental Protection  
9 Agency, Research Triangle Park, North Carolina, USA?

10 A Yes, I see that.

11 Q Do you see there someone there also from the  
12 National Institute of Environmental Health Sciences  
13 Gloria D. Jahnke, Office of the Report on Carcinogens,  
14 Research Triangle Park North Carolina, USA?

15 A I see that.

16 Q There's someone there from Risk Assessment  
17 Sciences from Utrecht University in the Netherlands,  
18 Hans Kromhout.

19 Do you see that?

20 A Yeah.

21 Q There's even somebody there from the European  
22 Chemicals Agency, ECHA; right?

23 A Yeah.

24 Q And then if we flip to the next page, we see  
25 additional people who were there.

1 Do you see that?

2 A Yes.

3 Q A couple from Canada, one from New Zealand.  
4 They're from all over the world, aren't they?

5 A Yeah.

6 Q And then we turn to the next page and we see  
7 who the observers were.

8 And we see a guy there named Tom Sorahan.

9 Do you see that?

10 A Yes.

11 Q And he's footnoted. 11 says he attended as an  
12 observer for Monsanto Company USA; correct?

13 A Yes. Correct.

14 Q You know that this panel of distinguished  
15 scientists, 17 of them, voted unanimously to  
16 characterize glyphosate as a probable human carcinogen;  
17 correct?

18 A I know what they voted. I also know that they  
19 aren't the only agency that -- that made that type of  
20 decision.

21 Q They made that decision. It was unanimous,  
22 including two EPA people, one who's a computational  
23 toxicologist, that glyphosate is a probable human  
24 carcinogen; right?

25 A 17 scientists. It's a small fraction of the



1 field.

2 Q Yeah.

3 A So.

4 Q And then a few months later --

5 THE COURT: Mr. Frazer, I'm going to have you  
6 pause for a second. I need to get whatever is in  
7 my throat out of my throat, so I'm putting this  
8 break on me. I fought it for a long time.

9 We're going to take a brief recess. Do not  
10 form or express any opinions about the case until  
11 it's finally given to you to decide. Don't do any  
12 research on the case. We'll bring you back in  
13 about ten minutes, and we'll get started again.

14 I'm sorry, Doctor, and I'm sorry, Mr. Frazer.  
15 (Recess taken.)

16 THE COURT: Welcome back. We're better.  
17 We're still working through it. Don't worry about  
18 me. I might cough a little bit, but I'm going to  
19 make it through. So that break was on me. I  
20 apologize. I thank everybody for bearing with me.

21 As soon as we get the tech set up, I'll turn  
22 it back over to Mr. Frazer.

23 Are you ready, Mr. Frazer?

24 MR. FRAZER: Yes, your Honor.

25 Good afternoon again, ladies and gentlemen.

1           Your Honor, May it please the Court, learned  
2           counsel.

3       BY MR. FRAZER:

4           Q       Dr. Tomasetti, I don't have too many more  
5           questions.

6                    You've not reviewed any internal Monsanto  
7           emails; correct?

8           A       I think in one deposition I was shown maybe  
9           one or two emails in the past, but overall I certainly  
10          didn't review emails.

11          Q       You've never been given any emails by  
12          Monsanto's counsel or Bayer's counsel to review internal  
13          Monsanto documents; right?

14          A       I -- no. I don't -- I don't recall any of  
15          them, no.

16          Q       Okay. You have not relied in any way on any  
17          unpublished studies to reach your opinions; right?

18          A       I -- yeah, I relied on the published  
19          literature as well as on my own studies, but -- so  
20          that's all I did.

21          Q       Okay. You, as a scientist, you would not rely  
22          except on yourself or a published study; right?

23          A       Yeah. I -- I want to see the scientific  
24          publications, and that's what I used. Or analysis based  
25          on those publications of course.

1 Q Okay. You haven't seen any Monsanto  
2 unpublished studies; correct?

3 A No. Not that I'm aware of, no.

4 Q All right. Have you ever turned in, during  
5 all the schools you went to -- and congratulations.  
6 What a great career you've had and great quality of  
7 education.

8 A Thank you.

9 Q But during that whole time, have you ever  
10 turned in a paper for grade that somebody else wrote for  
11 you?

12 A During school? No. I had the opposite that  
13 was happening, but no, not that way.

14 Q Sure.

15 And would it be fair to say you've also never  
16 authored a paper in part or whole and given it to  
17 someone else to put their name on it and not have of  
18 have your name on it?

19 A I had a situation, in fact, one of the papers  
20 we went over, when we had a so-called ghostwriter  
21 that -- because we wanted to make sure that we were  
22 expressing things in a way that the article could be  
23 understood in the best possible way, they helped us  
24 write it, some of the wording and adjusted some of the  
25 paragraphs, but of course the final version was fully

1 approved by me and Dr. Vogelstein.

2 Q In fact, one of the articles that I was really  
3 impressed with how many names were on it is that New  
4 England Journal of Medicine article.

5 Can we pull that up, Ed? It's D2338.

6 And the authors up there at the top.

7 And you listed everybody; right?

8 A As I said, in this article, I don't recall  
9 having anyone helping write it. There was a previous  
10 article we had someone.

11 If it's a ghostwriter in just helping the  
12 expression or writing better, say, whether it's  
13 editorial, grammar, it's a standard procedure. You  
14 don't need to include them as an author because it's not  
15 writing scientific, just helping you maybe with some  
16 grammar or expressing the words in a different way.

17 Q If we look over here on the right side of that  
18 first page of D2338, where you were asked -- you've got  
19 all these authors. There are more than five listed;  
20 right?

21 A Definitely more than five, yes.

22 Q And then over in the column over here, you say  
23 Dr. Tie, Mr. Cohen, Dr. Lahouel, and Drs. Tomasetti and  
24 Gibbs contributed equally to this article; right?

25 A Yes.

1 Q And the rest of the people did not contribute  
2 equally?

3 A As I said, it's a way in our field to say that  
4 we were the ones that potentially worked the most for  
5 this article.

6 Q On this, on this paper, you were trying to be  
7 as transparent as possible as to who helped on the  
8 article, including the -- what their role was in terms  
9 of equality; right?

10 A Yeah. And that is true in every article. If  
11 you look at, some journals write it like this. Other  
12 journals may just say corresponding authors.

13 But at the end of the day, there are some  
14 authors that always contribute more than others.

15 Q But in this article, you said five contributed  
16 equally, and the rest of them did not contribute  
17 equally.

18 A Well, you know, what is interesting is that it  
19 doesn't say anything about how much the other  
20 contributed; right? It just says that we five  
21 contributed equally.

22 Q Yeah. And we don't know how much the rest of  
23 the other people did, but their names are listed on  
24 here.

25 A Which means by the standards that we adhere

1 to, they all had to contribute to the article to be  
2 listed.

3 As I said, you may have a technician, for  
4 example, executing something, and that doesn't appear in  
5 the article because it's -- there was no scientific work  
6 on their side.

7 Q Okay. I want to hand you a copy of that D --  
8 Exhibit D2333 that's been admitted into evidence.

9 And --

10 THE COURT: I have it.

11 MR. FRAZER: Well, this is color-coded.

12 BY MR. FRAZER:

13 Q Do you know how you can get on the computer  
14 and search for a word?

15 A Yeah, I know that.

16 Q You got your word and you look for it?

17 A Yeah.

18 Q I looked for every time you used the word  
19 "estimate" or "estimates" or "estimating," every time  
20 you used the word "assume," "assumption," "assumes,"  
21 "assume," and even the word "if."

22 And I don't know if you want to go through and  
23 look at it, but I counted 53 times you used the word  
24 "estimate" or some form of it, 27 times you used the  
25 word "assume," or some form of it, and 15 times you used

1 the word "if," for a grand total of 95 kind of iffy  
2 words; right?

3 A Oh, I disagree. If in mathematics is one of  
4 the most precise words you can use, first of all. If  
5 then. In fact, that's how, in general, I use it. And  
6 estimate, it's just a way to say calculate, estimate.

7 Maybe it's I just tend to use always the same  
8 words. Maybe because my poor English.

9 Q Maybe it's my poor looking at this as an  
10 article of precision. That could be it too.

11 But your -- going back to your other article,  
12 you assumed if a Planet B existed; right?

13 A That was just a theoretical example to help  
14 people understand the concept.

15 Q You've got an award from Bayer, haven't you?

16 A An award?

17 Q Yeah, an award.

18 A I wish I knew about that award. No, I didn't  
19 receive any award by Bayer.

20 That was a joke.

21 Q You had stock options in a company called  
22 Haystack; right?

23 A Haystack, yes. I was a scientific advisor for  
24 them because I wrote the paper to provide the technology  
25 for them.

1 Q And Haystack got the Sustainable Startup Award  
2 from Bayer; correct?

3 A Haystack, not me. I'm just an advisor to  
4 Haystack.

5 Q Yeah. But Haystack got the award from Bayer;  
6 right?

7 A I didn't even know. I'm not Haystack. I'm  
8 advising them. They got the award.

9 Q You have stock options in Haystack; right?

10 A I have. I don't anymore, actually.

11 Q You got rid of them or got them taken away  
12 from you?

13 A The Haystack was sold.

14 Q So they never cashed?

15 A Haystack is still a company. It was sold  
16 to -- I believe it's called Quest Diagnostic, where you  
17 can go get visits, yes.

18 Q So my question was did you get compensated for  
19 the sale of Haystack?

20 A Yeah, as a scientific advisor I was  
21 compensated, of course.

22 Q Let's -- you would agree with me that  
23 exogenous oxidative stress can cause damage to cells?

24 A Oxidative stress can cause damage to DNA of  
25 cells; therefore, yeah, it can, yes.



1 Q Environmental factors can increase mutations  
2 in DNA?

3 A Oh, for sure, yes.

4 Q Environmental factors can increase the rate of  
5 cell division?

6 A Absolutely, yes.

7 Q Environmental factors can cause inflammation  
8 that can increase the division rate of a cell attributed  
9 to the environment?

10 A Yeah. It can increase it above the background  
11 that we discussed, yes. Absolutely.

12 Q Okay. You would agree that while there's a  
13 normal amount of cell subdivision, an environmental  
14 factor can increase the normal rate of cell subdivision  
15 so that there would be an abnormal amount of cell  
16 division; right?

17 A Yeah, I think that's what I showed. There are  
18 cases like lung cancer and melanoma where, for example,  
19 that is exactly what happens due to some environmental  
20 factor like smoking and sun exposure, yeah.

21 Q Have you heard of what are called cancer  
22 clusters?

23 A Cancer clusters? I think so.

24 Q Like a community where there's a big incidence  
25 of cancer?

1 A Right.

2 Q You've heard of that before?

3 A Yeah, I heard about that.

4 Q They've gone on all over the world, haven't  
5 they?

6 A What is that have gone all over the world?  
7 Sorry. I don't understand.

8 Q Like 9/11.

9 MS. COOK: Your Honor, I'm going to object to  
10 relevance here.

11 THE COURT: I'm -- well, I'll overrule that,  
12 but I don't know that, "Like 9/11" is a question.  
13 Can you ask another question, Mr. Frazer?

14 MR. FRAZER: I was getting ready to do that,  
15 your Honor.

16 THE COURT: All right.

17 BY MR. FRAZER:

18 Q There are cancer clusters around certain  
19 events that have happened in the world's history;  
20 correct?

21 A Oh, yeah, I wrote about it, for example, yeah,  
22 Chernobyl in Russia.

23 Q Chernobyl?

24 A Chernobyl, yeah.

25 Q Bhopal, India?

1 A Uh-huh.

2 Q Right? That's one?

3 A Okay. Yeah.

4 Q Love Canal in New York. That's another one?

5 A I don't -- I don't remember.

6 Q You heard of radiation from -- nuclear  
7 radiation fallout causing cancer clusters?

8 A Radiation fallout is -- I think we discussed  
9 Chernobyl, Russia. Those are examples; right.

10 Q Coal miners who get black lung, working in the  
11 coal mines all their life?

12 A That's a profession. I don't know that's  
13 necessary a cluster, historically a cluster. But it's a  
14 profession that's exposed to something that's not good  
15 for your lungs, yes.

16 Q So a little disaster every day for that  
17 person; right?

18 A There are -- I haven't looked carefully to it,  
19 but, yeah, there are exposures that may be dangers  
20 there, yeah.

21 Q Same thing with shipyard workers who worked in  
22 naval ships, putting asbestos in the boiler rooms;  
23 right?

24 A In the past, yes. As we know now, asbestos is  
25 a problem, cancer causation.

1 Q Including a famous person named Steve McQueen;  
2 right? Do you know that story?

3 A No, I didn't.

4 Q Hiroshima, you talked about the Hiroshima  
5 bomb. If you were near the blast at Hiroshima and you  
6 survived it, you had a high chance of getting a leukemia  
7 of some type; correct?

8 A Yes, I was invited by them and I studied that,  
9 yes.

10 Q And even victims at the 9/11 World Trade  
11 Center disaster have gotten cancer related to the 9/11  
12 attack on our country; right?

13 A I haven't looked at those numbers. I wouldn't  
14 be surprised if there was an effect of what happened,  
15 the smoke and the pollution of those days, yeah.

16 Q Do you know what's in a bottle of formulated  
17 Roundup?

18 A I think obviously the main active ingredient  
19 is glyphosate, and then surfactant, basically a soapy  
20 substance, and water. I think those are the ones I  
21 recall as main ingredients.

22 Q Did you know arsenic is in a bottle of  
23 Roundup, formulated Roundup?

24 MS. COOK: Your Honor, may we approach?

25 THE COURT: We may.

1 (Counsel approached the bench and the  
2 following proceedings were had:)

3 THE COURT: Ms. Cook.

4 MS. COOK: This has no relevance to the  
5 direct. It has no relevance to this witness. It  
6 is basically a start to counsel's closing argument,  
7 and it's a waste of everyone's time. It's  
8 irrelevant, and I also have to renew our motion in  
9 limine on this.

10 THE COURT: Mr. Frazer.

11 MR. FRAZER: Your Honor, he gave an opinion to  
12 this jury that formulated Roundup is not  
13 carcinogenic in any manner, and I'm entitled to  
14 show he doesn't even know what's in the bottle.

15 MS. COOK: He knows that --

16 MR. FRAZER: I mean, he can't take the stand  
17 and say one thing and not be cross-examined on it.  
18 He doesn't even know what's in the bottle.

19 THE COURT: Here's what I'm going to say.  
20 None of this is going to surprise the jury. I'm  
21 going to let you ask the questions. Ask your  
22 questions and move on.

23 MR. FRAZER: It's going to be quick.

24 THE COURT: Let's not get any extracurricular  
25 add-ons or any -- you get to ask your questions and

1 move on.

2 MR. FRAZER: No Mike Brown.

3 THE COURT: What's good for the goose is good  
4 for the gander, Mr. Frazer.

5 (Proceedings resumed in open court.)

6 BY MR. FRAZER:

7 Q Did you know that arsenic is in a bottle of  
8 formulated Roundup?

9 A You mean it's in every bottle of formulated  
10 Roundup?

11 Q I'm not going to ask questions.

12 Do you know whether or not arsenic is in a  
13 bottle of formulated Roundup?

14 A I'm just confused on the question. Is the  
15 question about every bottle of Roundup or just if there  
16 is some bottle that may have arsenic?

17 Q Every bottle.

18 A Every bottle. I would -- I don't know. I  
19 don't know, and I would be surprised if every bottle has  
20 amounts of arsenic in it. But I don't know.

21 Q How about any bottle?

22 A Even just one?

23 Q Yeah.

24 A I wouldn't be surprised if there is maybe one  
25 bottle out of the millions out there that end up with

1 some impurity.

2 Q But again, you haven't seen any internal  
3 Monsanto documents?

4 A No.

5 Q Do you know whether or not a bottle of  
6 formulated Roundup has a substance in it called  
7 1,4-dioxane?

8 A Same answer: No, I don't.

9 Q Do you know whether a bottle of Roundup has  
10 NNG in it?

11 A Same answer.

12 Q Do you know whether a bottle of formulated  
13 Roundup has formaldehyde in it?

14 A Again, I -- I expect that not to be present in  
15 general in bottles of Roundup. If there are some  
16 exceptions because of impurities, I wouldn't be  
17 surprised, millions of bottles that some impurity may  
18 happen in one bottle or in a few bottles. I don't know.  
19 I don't follow that industrial process. I'm here just  
20 to comment about glyphosate really.

21 Q Do you know that a breakdown product after you  
22 spray formulated Roundup is a substance called AMPA,  
23 A-M-P-A?

24 A Yeah, I heard that. But, again, even if there  
25 was such a thing, I think that the emerging data is

1 where we need to look at for understanding whether those  
2 things have any effect in practice or not.

3 Q We're talking about this earlier. Let's -- I  
4 want to -- where's the definitions?

5 Do you remember being deposed in a case called  
6 Griswold v. Monsanto Company?

7 MS. COOK: I'm going to object to the improper  
8 use of a deposition unless --

9 THE COURT: Is there something that we're  
10 using this for impeachment purposes, Mr. Frazer?

11 MR. FRAZER: In a minute. I'm just getting  
12 ready. Just trying to be efficient.

13 BY MR. FRAZER:

14 Q Do you remember talking about you never said  
15 that IARC was the gold standard?

16 A I don't think I said I never said that. I  
17 think I said it's a fine institution. I don't remember  
18 if I said gold standard on one occasion or not.

19 Q Do you want to agree with me right now that  
20 IARC is the gold standard used in the sense of a  
21 fundamental important reference in the field?

22 A That's what I said. It's a fundamental  
23 institution in the field.

24 Q Okay.

25 A I already said it, yeah.



1 Q We won't have to look at that one then.

2 Do you remember we talked earlier about a  
3 revision to your article? You said you never made a  
4 revision to it.

5 A Sorry. Because you're turning in the  
6 direction, I don't hear.

7 Q I'm sorry. I got a terrible habit of doing  
8 that, and I apologize to everybody for that. I really  
9 do.

10 I'll try to back out this way.

11 Do you remember testifying that you never made  
12 any sort of changes to your article?

13 A I think I testified that you said that five  
14 years later I made a change, and I definitely did not.

15 Q Okay. I want to hand you your deposition that  
16 was taken by my partner back there, Mr. Sifton in this  
17 case, John Durnell v. Monsanto Company.

18 You remember that day, don't you?

19 A This the deposition? I remember that?

20 Q Yes, sir.

21 A Yeah.

22 Q And let's go to page 78.

23 A Page 78. Yes.

24 Q Are you there?

25 A Yes, I'm on page 78.

1 Q All right. Let's go down to the bottom of  
2 that page.

3 MS. COOK: Your Honor, this is improper use of  
4 a -- please take it down.

5 This is improper use of a prior inconsistent  
6 statement.

7 THE COURT: Let's go to sidebar.

8 (Counsel approached the bench and the  
9 following proceedings were had:)

10 MS. COOK: Your Honor, earlier he was asked if  
11 his 2017 paper that has NHL, if he changed that and  
12 added it afterwards. This is talking about his  
13 2017 paper, and it literally is not inconsistent  
14 with this at all.

15 MR. FRAZER: He's asked:

16 "Why did you add a reference to non-Hodgkin's  
17 lymphoma in your 2017 article?

18 "Because at that time the cancer types, which  
19 were provided overall estimates of the contribution  
20 of the environment in their possession, which was  
21 done at Cancer Research UK and had NHL. I used  
22 their references."

23 THE COURT: I'm confused. I thought what you  
24 were trying to impeach him on is whether or not he  
25 made an amendment to one of his articles five years

1 later.

2 MR. FRAZER: That's what he did.

3 MS. COOK: This is the 2017 is what he asked.  
4 This is about adding NHL in the 2017 article after  
5 the 2015 article was published.

6 THE COURT: Where in this does he say that he  
7 amended his work five years later?

8 MR. FRAZER: That's the context of this, your  
9 Honor. This is -- he says -- he's asked above:

10 "After your 2015 paper was published, were you  
11 asked to add non-Hodgkin's lymphoma to your  
12 analysis?"

13 He says, "Certainly not."

14 He starts talking, and he said:

15 "I started being an expert in 2020, so in 2015  
16 it was five years before, basically."

17 "Why did you add a reference to non-Hodgkin's  
18 lymphoma in the 2017 article?"

19 And in this context he says because at the  
20 time the cancer types. Well, you can read that.

21 THE COURT: And 2017 was still before he'd  
22 ever started being a paid consultant for Monsanto;  
23 right?

24 MS. COOK: Yes. This is totally consistent.

25 THE COURT: I don't know how this is

1 impeachment, Mr. Frazer.

2 MR. FRAZER: You don't think it is?

3 THE COURT: Where does he say that after he  
4 started working for Monsanto five years later he  
5 amended his article to reference non-Hodgkin's  
6 lymphoma?

7 He's saying in 2017 when he still was not a  
8 Monsanto consultant in his second paper they added  
9 a reference to it.

10 MR. FRAZER: That's because he added that last  
11 sheet on the supplementary materials after he met  
12 with the lawyers at Goldman Ismail.

13 MS. COOK: That is false.

14 THE COURT: Does he say that somewhere?

15 MS. COOK: No.

16 MR. FRAZER: No, but I think I can get him to  
17 say that if I'm allowed to show this.

18 THE COURT: This isn't impeachment.

19 (Proceedings resumed in open court.)

20 MR. FRAZER: I'll withdraw that question, your  
21 Honor.

22 BY MR. FRAZER:

23 Q The -- you will agree with me that there is no  
24 mutational signature identified for non-Hodgkin's  
25 lymphoma?

1           A       I think your question is -- I don't understand  
2 the meaning of the question. We don't have signatures  
3 for cancer types. We have signatures for risk factors.

4                    So we have signature for smoking, signature  
5 for sunlight exposure, signature for alcohol. We don't  
6 have a signature for lung cancer or a signature for  
7 non-Hodgkin's lymphoma.

8           Q       My question is has a mutational signature been  
9 identified for non-Hodgkin's lymphoma?

10                   Yes or no?

11           A       No.

12           Q       Has a mutational signature been identified for  
13 mantle cell lymphoma?

14           A       No.

15           Q       In math, is a negative times a negative a  
16 positive? Like minus one times minus one is plus one;  
17 right?

18           A       Yes. In general, that is the case, yeah.

19           Q       That's basic math. That's where my math level  
20 is; right?

21           A       Well, it's everyone's math, yeah.

22           Q       You have two negatives will make that  
23 positive; right?

24           A       Yeah. They can make a positive.

25           MR. FRAZER: No further questions, your Honor.

1 caption.

2 Q Okay. And then I'll point you to one of the  
3 tables that's before the table that we looked at. It's  
4 on page 56. It's a bunch of data. And does this also  
5 include information on NHL?

6 A Yes.

7 Q Okay. Now, a third topic, you were asked some  
8 questions about UK versus U.S. data.

9 Do you recall that?

10 A Yes.

11 Q And the UK data, is that just London or does  
12 it include Scotland and Wales and Northern Ireland and  
13 the rest of England?

14 A Yeah. It includes United Kingdom obviously,  
15 so all those, yeah.

16 Q Have you used data from the United States in  
17 your analyses as well?

18 A Yeah. Many times.

19 Q And I want to point you to the last paper that  
20 we talked about, which is the -- this -- I think that's  
21 the last one I talked about.

22 A Yeah.

23 Q The paper from last year and ask you about a  
24 dataset that's talked about here on page 2. And this is  
25 D3707.

1 A Yeah, the TCGA.

2 Q Talks about using the public genomic TCGA  
3 database. What is that?

4 A Yeah, that's -- the TCGA, it's a play on  
5 words, because T, C, G, and A are the four letters of  
6 DNA, but it is also -- stands for The Cancer Genome  
7 Atlas. So it's the largest database in the U.S. and  
8 funded by NIH. Database that collects the DNA  
9 sequencing data of thousands and thousands of cancer  
10 patients of many cancer types.

11 Q Is this an example on the use of United  
12 States-based data in one of your papers?

13 A For example, as I said, in the very first 2015  
14 paper, that was based on SEER U.S. data.

15 Q And that's -- SEER, is that the data we looked  
16 at first?

17 A In fact, I was accused, if you remember, I was  
18 accused to have done my analysis only on U.S. data, so I  
19 went and did it on other countries. So now if I do on  
20 another countries, hopefully I'm okay.

21 Q All right. Last topic. So you were asked  
22 about arsenic and NNG and other impurities in bottles of  
23 Roundup.

24 Now, if those impurities ended up in Roundup  
25 and were causing cancer, would you know about that?

1           A       Yeah. We would observe it on epidemiological  
2 data if this was an important effect contained in  
3 Roundup.

4           Q       And has any effect of any impurity in Roundup  
5 showed up in the epidemiology literature that you've  
6 reviewed?

7           A       I never see that.

8           MS. COOK: Thank you, Doctor. Pass the  
9 witness, your Honor.

10          THE COURT: Mr. Frazer.

11          MR. FRAZER: Just one follow-up question, I  
12 hope.

13  
14  
15          Q       The Cancer Genome Atlas that you just  
16 testified about doesn't have anything in it for  
17 non-Hodgkin's lymphoma, does it?

18          A       I would have to check.

19          Q       I'll hand you my computer.

20          A       Let's see. I think what you are showing me  
21 here is just the list of papers that were published by  
22 some -- you know, that was some groups, and it's not --  
23 this list is not comprehensive of everything that's in  
24 the TCGA.

25          Q       It's from the database, isn't it? Cancer.gov?