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1 UNITED STATES DISTRICT COURT  
2 NORTHERN DISTRICT OF CALIFORNIA

3 IN RE: ROUNDUP )  
4 PRODUCTS LIABILITY ) MDL No. 2741  
5 LITIGATION )  
6 )  
7 ) Case No.  
8 ) 16-md-02741-VC  
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7 FRIDAY, APRIL 7, 2017  
8 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER  
9 - - -

10 Videotaped deposition of John  
11 Acquavella, Ph.D., held at the offices of  
12 HUSCH BLACKWELL, L.L.C., 190 Carondelet  
13 Plaza, Suite 600, St. Louis, Missouri,  
14 commencing at 9:01 a.m., on the above date,  
15 before Carrie A. Campbell, Registered  
16 Diplomate Reporter, Certified Realtime  
17 Reporter, Illinois, California & Texas  
18 Certified Shorthand Reporter, Missouri &  
19 Kansas Certified Court Reporter.  
20 - - -  
21  
22  
23  
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1 VIDEOPHOTOGRAPHER: We are now on  
2 the record. My name is Dan Lawlor.  
3 I'm a videographer for Golkow  
4 Technologies.  
5 Today's date is April 7, 2017,  
6 and the time is 9:01 a.m.  
7 This video deposition is being  
8 held in St. Louis, Missouri, in the  
9 matter of In Re: Roundup Products  
10 Liability Litigation.  
11 The deponent is John  
12 Acquavella, Ph.D.  
13 Counsel, please identify

14 yourselves for the record.  
15 MR. MILLER: Yes, good morning.  
16 Michael Miller, together with Jeffrey  
17 Travers, Nancy Miller and Kathryn  
18 Forgie, on behalf of plaintiffs.  
19 MR. COPLE: William Cople and  
20 Grant Hollingsworth of Hollingsworth,  
21 LLP, and Ms. Robyn Buck of Monsanto  
22 Company, both -- all for Monsanto  
23 Company, and for -- Mr. Hollingsworth  
24 and myself for Dr. Acquavella.  
25 VIDEOGRAPHER: The court

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1 reporter is Carrie Campbell, and will  
2 now swear in the witness.  
3

4 JOHN ACQUAVELLA, Ph.D.,  
5 of lawful age, having been first duly sworn  
6 to tell the truth, the whole truth and  
7 nothing but the truth, deposes and says on  
8 behalf of the Plaintiffs, as follows:  
9

10 DIRECT EXAMINATION

11 QUESTIONS BY MR. MILLER:

12 Q. Good morning, Doctor.

13 A. Good morning.

14 MR. COPLE: If I could just  
15 interrupt you --

16 MR. MILLER: Please go ahead.

17 MR. COPLE: My apologies,  
18 Mr. Miller.

19 Monsanto Company provisionally  
20 designates as confidential under the  
21 Court's protective and confidentiality  
22 order in the paragraph 8 of  
23 Document 64, and that includes the  
24 transcript, the videography and all  
25 exhibits.

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1 QUESTIONS BY MR. MILLER:

2 Q. Good morning, Doctor.

3 A. Good morning.

4 Q. Please state your full name.

5 A. John Acquavella.

6 Q. Okay. Dr. Acquavella, right?

7 A. Yes.

8 Q. You're a Ph.D. in epidemiology?

9 A. Yes.

10 Q. Okay. So I will refer to you

11 as Dr. Acquavella.

12 A. Thank you.

13 Q. Yes, sir.

14 And you understand you're being  
15 deposed here today?

16 A. Yes.

17 Q. Have you been deposed before?

18 A. Yes.

19 Q. Okay. And so I'm going to ask  
20 you questions. If at any time you don't

21 understand them, will you let me know?

22 A. I will. Thank you.

23 Q. So that if you answer the  
24 question, I'll assume that you understood it  
25 and answered it truthfully and fully, fair?

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1 A. I'll do my best to answer every  
2 question you ask truthfully and fully.

3 Q. Fair enough. All right, sir.  
4 we'll go over your CV in some  
5 detail, but can you and I agree that  
6 epidemiology -- and I've just written this  
7 down on a card -- is the study of people to  
8 identify factors that may cause or prevent  
9 disease? Is that fair?

10 MR. COPLE: Object to the form  
11 of the question.

12 QUESTIONS BY MR. MILLER:

13 Q. You can answer even though he  
14 objects. He'll be doing that as he feels  
15 appropriate as the day goes along.

16 You can answer.  
17 A. well, I'll give you my  
18 definition of epidemiology. It's the study  
19 of the -- determines a disease and the  
20 distribution of disease in human populations.

21 Q. Have you ever used the  
22 definition that I've written on this card?

23 A. No.

♀  
[Redacted]

♀  
[Redacted]

♀  
[Redacted]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

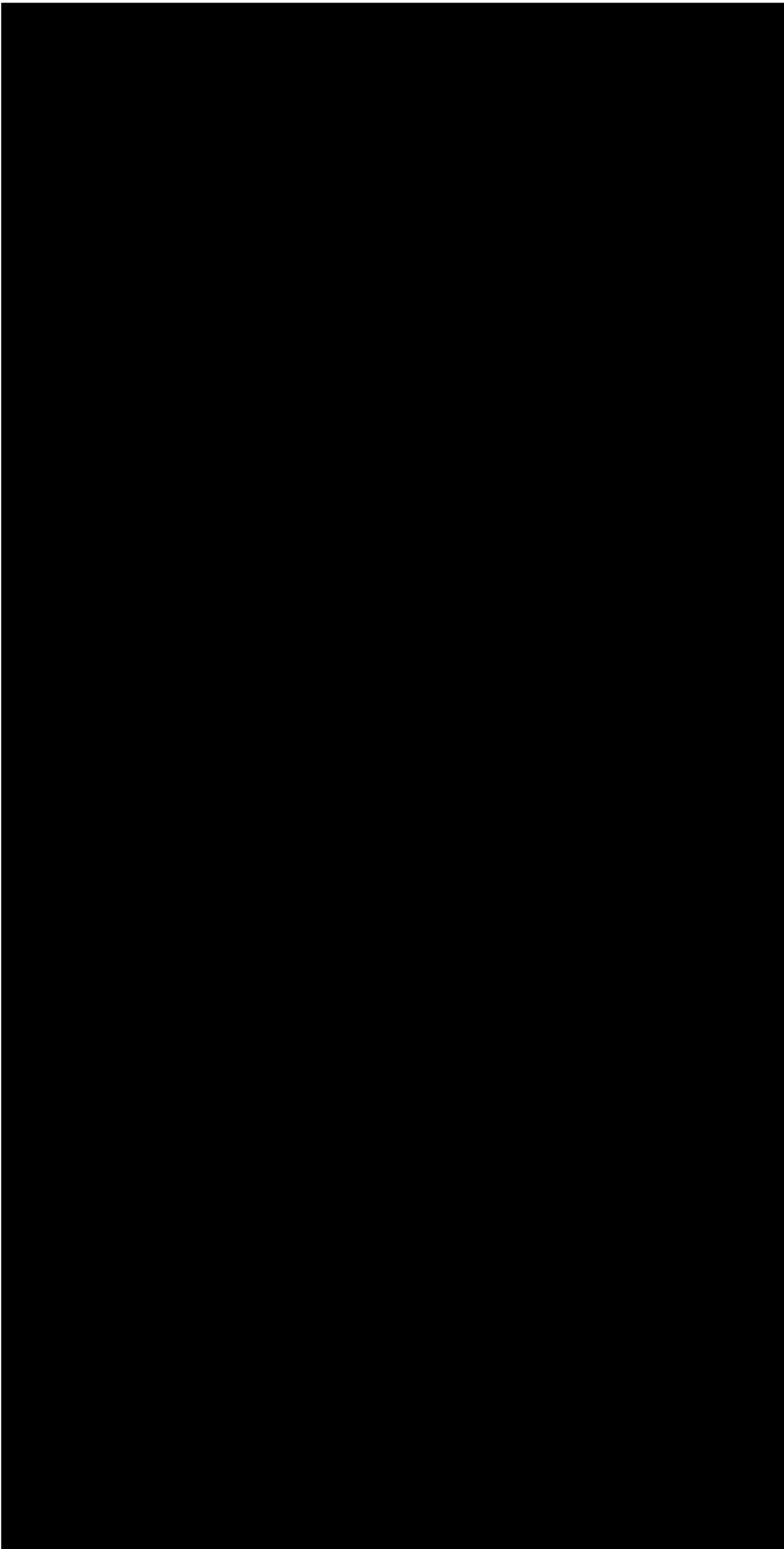
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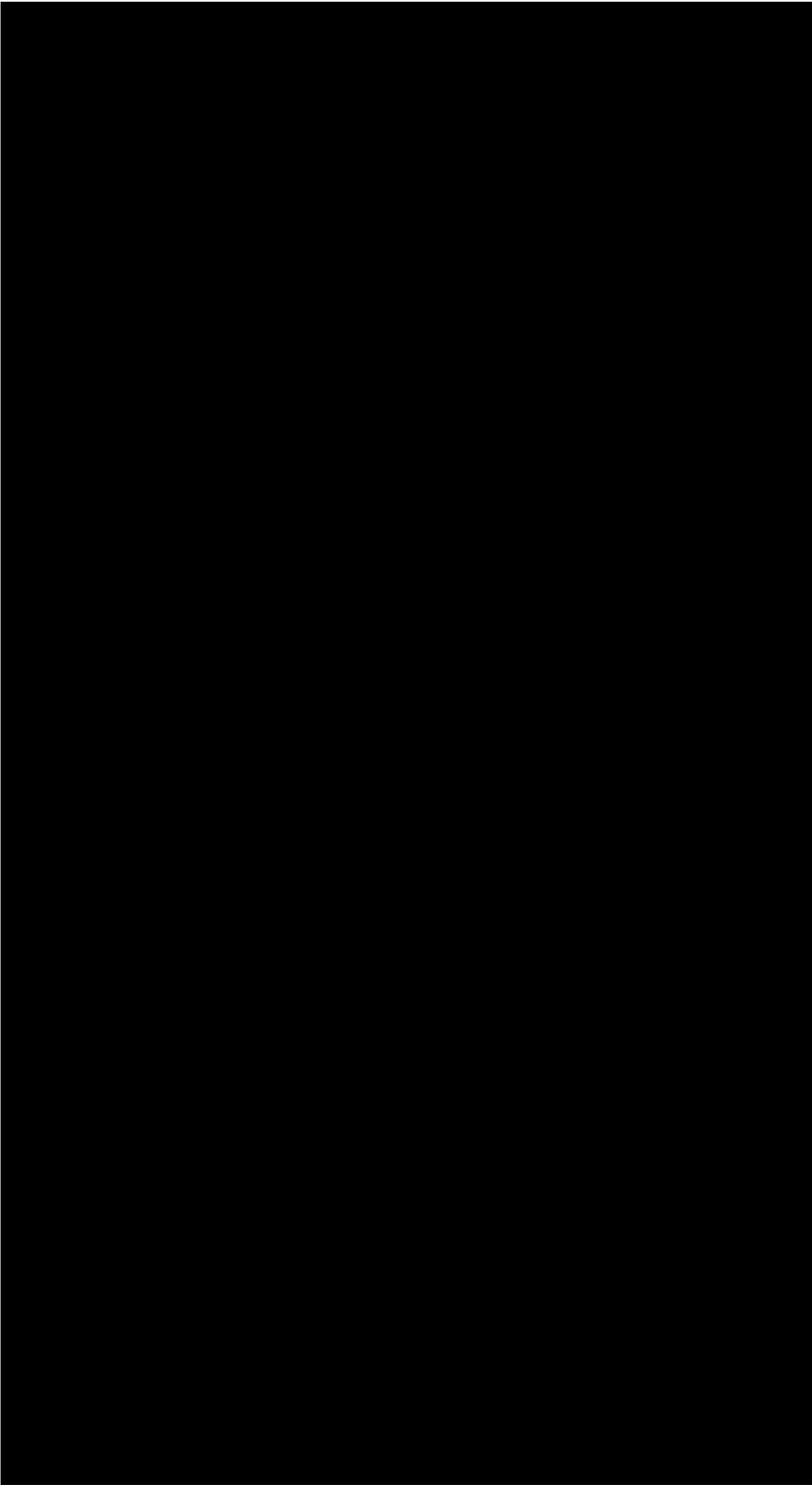
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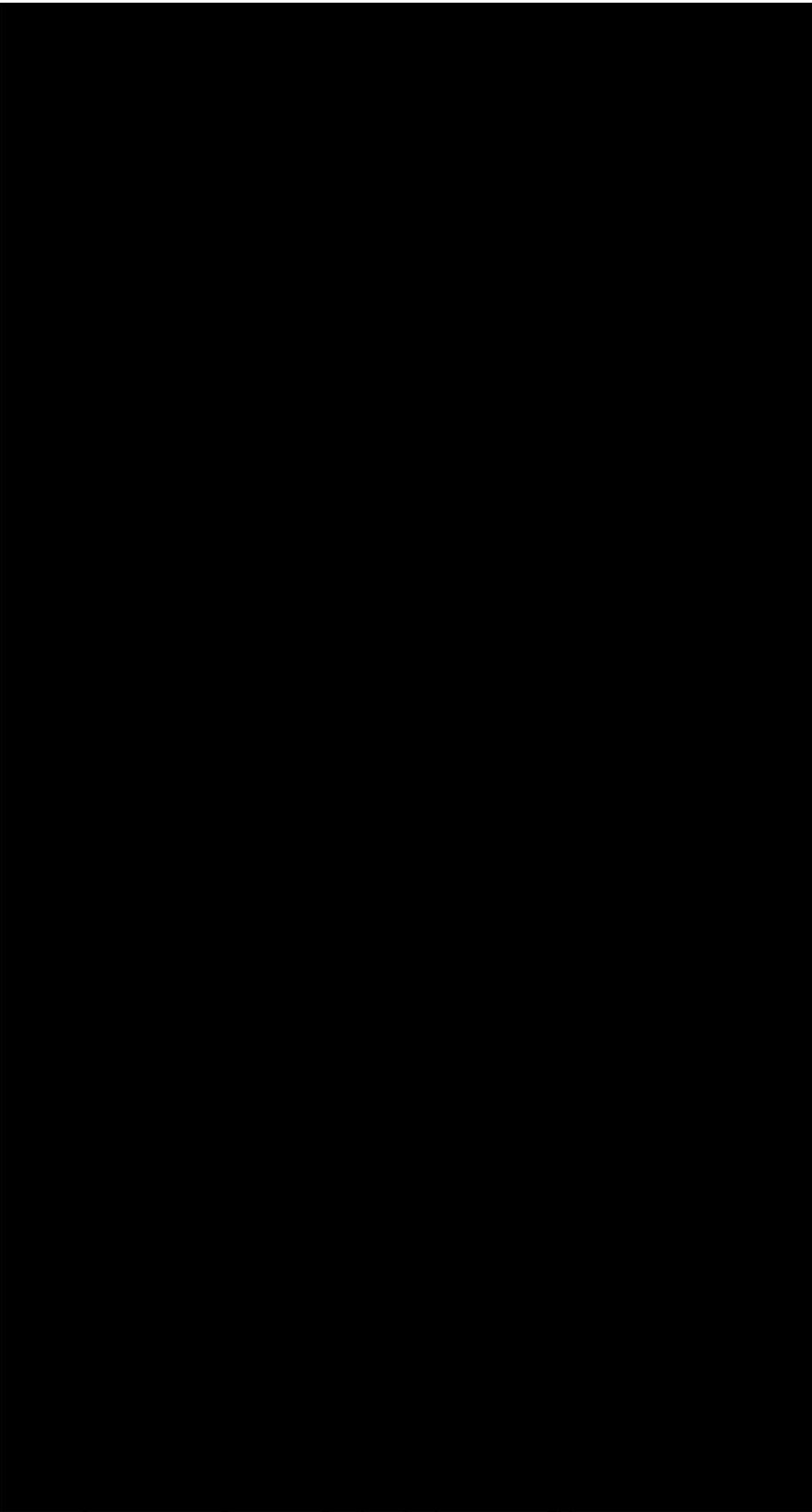
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♀ [REDACTED]

♀ [REDACTED]







5 Exhibit 10-2.

6 So the jury understands,  
7 there's a field of science and medicine  
8 called oncology, isn't there, sir?

9 A. There's a field of medicine  
10 called oncology, yes.

11 Q. And would it be fair to  
12 describe that as the study of cancer?

13 A. It concerns cancer, yes.

14 Q. And you're not an oncologist;  
15 you're not a cancer doctor?

16 A. No, I'm not -- I don't treat  
17 patients and I'm not a medical doctor.

18 Q. Okay. And just to be clear  
19 then, so you couldn't see patients. It's not  
20 what your training is. Your training is in  
21 epidemiology?

22 A. My training is in epidemiology.

23 Q. All right. So prior to --  
24 right now you're a consultant in what, the  
25 Acquavella consulting company? Is that what

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1 that is?

2 A. It's actually John Acquavella  
3 Consulting.

4 Q. Okay. Just asking.  
5 And you've been in that  
6 position since 2014, right?

7 MR. COPLE: Objection. Lacks  
8 foundation.

9 THE WITNESS: Oh, okay.  
10 QUESTIONS BY MR. MILLER:

11 Q. You can answer. Just because  
12 he objects -- move quicker if you just keep  
13 answering. Unless he instructs you not to  
14 answer, you answer even though he objects.

15 A. Okay. I don't know exactly  
16 when I started my consulting business. I  
17 retired from Amgen, which is a  
18 biopharmaceutical company, late in November  
19 of 2014, and so it would be sometime after  
20 that. I'm not sure whether I started my  
21 consulting business formally in early 2015 or  
22 in late 2014.

23 Q. Okay. And so you were at Amgen  
24 pharmaceutical company from the time 2004,  
25 when you left Monsanto, to 2014; is that

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1 fair?

2 A. Yes, that's right.

3 Q. So about ten years?

4 A. Exactly.

5 Q. Yes, sir.

6 And then prior to that, you  
7 were at Monsanto as a full-time employee from  
8 September '90 -- of '89 to November of 2004?

9 A. Yes.

10 Q. About 15 years?

11 A. About 16 years.

12 Q. 16 years. I'm sorry.

13 Prior to that you were at

14 Exxon, right?  
15 A. Yes.  
16 Q. And Exxon, looks like six  
17 years?  
18 A. Yes.  
19 Q. Okay. Six years Exxon,  
20 16 years Monsanto, and ten years at Amgen,  
21 the pharmaceutical company, right?  
22 A. Yes.  
23 Q. All as an epidemiologist?  
24 A. Yes.  
25 Q. And in that 32 years, did you

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1 ever publish a study that said one of those  
2 companies that you worked for had a product  
3 that caused a disease?  
4 MR. COPLE: Objection. Vague.  
5 THE WITNESS: Could you  
6 rephrase that?  
7 MR. MILLER: Sure.  
8 Could you read the question  
9 back so we're clear on what it is.  
10 (Court Reporter read back  
11 question.)  
12 THE WITNESS: Okay. When I  
13 worked for Exxon, I investigated a  
14 cancer cluster in a refinery,  
15 petrochemical plant, and I was  
16 actually -- part of my doctoral  
17 dissertation in epidemiology, it was  
18 awarded the student prize by the  
19 Society for Epidemiologic Research,  
20 and it linked one of the processes at  
21 Exxon with a cancer cluster.  
22 I've done other kinds of  
23 studies that identified determinants  
24 of exposure for different plants.  
25 So I think my record, you know,

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1 is -- shows that, you know, I do the  
2 research, and whatever the finding, I  
3 publish it as it is, and generally  
4 known in my epidemiology community as  
5 being somebody who is fair minded.  
6 QUESTIONS BY MR. MILLER:  
7 Q. We'll take a harder look at  
8 that as the day goes along. Let me go back  
9 and focus on the cancer cluster at Exxon.  
10 Is that in your CV?  
11 A. Yes.  
12 Q. Okay. Can you identify which  
13 article, please?  
14 A. It's Acquavella, et al. --  
15 Q. What page, sir?  
16 A. -- on page 8.  
17 Q. 8?  
18 A. Yes. American Journal of  
19 Epidemiology, 1991.  
20 Q. I'm going to put page 8 under  
21 here so we can take a look at it together.  
22 Tell me the article again.

23 A. It's six from the bottom.  
24 Q. Six from the bottom.  
25 Acquavella, Owen, Bird?

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1 A. Yes.  
2 Q. Okay. In that article, you  
3 conclude that a product that was being made  
4 by Exxon was associated with a risk of a  
5 particular injury?  
6 A. So that was a study that  
7 evaluated whether the cancer cluster that was  
8 seen in the plant was correlated with any  
9 parts of the manufacturing process.  
10 Q. And did you conclude that it  
11 was?  
12 A. We said the evidence supported  
13 the association between the cancer cluster  
14 and that part of the process.  
15 Q. Sure.  
16 And it's important you did that  
17 on one study, didn't you?  
18 A. No.  
19 Q. How many studies showed the  
20 association?  
21 A. Well, this had to do with  
22 colorectal cancer. And I don't know if you  
23 know very much about colorectal cancer --  
24 Q. My grandfather died of  
25 colorectal cancer. I know a little bit about

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1 it. But go ahead.  
2 A. I'm sorry to hear that.  
3 what we tried to do was to  
4 think about the process of colorectal cancer,  
5 and we did a series of studies that not only  
6 looked at colorectal cancer as an outcome but  
7 also looked at premalignant states --  
8 Q. Polyps?  
9 A. -- of colorectal cancer,  
10 particularly adenomatous polyps.  
11 So, you know, as a result of my  
12 original work to identify the cancer cluster,  
13 which is in here as well, which is on page 9,  
14 five from the bottom...  
15 Q. Acquavella, Douglas, Phillips?  
16 A. Yes.  
17 Q. So there are two articles that  
18 relate to the issue upon which you base that  
19 conclusion; is that fair, or are there  
20 others?  
21 A. There are others.  
22 Q. Okay. Would you point them out  
23 for me?  
24 A. Yes.  
25 Q. Please.

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1 A. Let's go to -- go up two more  
2 articles.  
3 Q. And where are they?  
4 A. Acquavella, Douglas, Vernon.

5 Q. I see it. Okay. Highlight the  
6 right one here. Okay.

7 A. So we identified the cluster.  
8 We -- as a result of that identification,  
9 Exxon decided to do a colorectal cancer  
10 screening program for all the people who had  
11 worked in the process.

12 We looked to see whether the  
13 rate of adenomatous polyps was higher in  
14 people who had certain exposure than who  
15 didn't have that exposure.

16 The next article was with  
17 Vernon and Acquavella, Journal of  
18 Occupational Medicine in 1989. We looked at  
19 issues of whether participation was important  
20 in understanding the results that we had.

21 We extended that study, the  
22 next article, Acquavella, Douglas, Vernon,  
23 Hughes, et cetera, to look at -- I'm sorry,  
24 that was a letter to the editor.

25 The next one, Acquavella and

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00034

1 Owen --

2 Q. Oh, I see it up here. Okay.

3 A. "Assessment of colorectal  
4 cancer incidence among polypropylene pilot  
5 plant workers." We extended our research to  
6 look at people who had been involved with the  
7 process at the pilot level.

8 Q. Okay.

9 A. And we did another study,  
10 Vernon, Acquavella, Yarborough, to further  
11 understand the participation and  
12 nonparticipation in the screening program.

13 And then we go all the way up  
14 to the award-winning article, which was  
15 published in 1991.

16 Q. And that's after you've left  
17 Exxon. In '91, right?

18 You started at Monsanto in  
19 1989, right?

20 A. '89, yes.

21 Q. And you're on page 7?

22 A. I'm on page 8.

23 Q. I'm sorry, excuse me, page 8.

24 Okay.

25 I see the award-winning article

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00035

1 being the Acquavella, Owen, Bird article?

2 A. Yes, American Journal of  
3 Epidemiology in 1991.

4 Q. And I don't mean to interrupt  
5 you. Go ahead.

6 A. And I have to say, you know, in  
7 answer to your question, that even though  
8 there were many studies and a comprehensive  
9 line of evidence that's consistent with the  
10 mechanism of colorectal cancer as we  
11 understand it, it's still a study of one  
12 population. And other companies have done  
13 studies as well with their polypropylene

14 workers. So it's never that one study, or  
15 one study of one population, proves anything.  
16 So, you know, evidence in  
17 epidemiology, by that I mean studies that  
18 come out, you know, are always updating, you  
19 know, the information base by which  
20 scientists would look at research and make an  
21 evaluation.

22 Q. Science is always evolving,  
23 isn't it?

24 A. I think so, yes.

25 Q. And with epidemiology, there's

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1 no such thing as a perfect study, is there?

2 MR. COPLE: Objection. Vague.

3 THE WITNESS: So I'm trying to  
4 boil down something that's very

5 complicated. So let me just say that

6 the paradigm for an epidemiology study

7 that most people would agree is

8 unbiased is the randomized clinical

9 trial where patients come into a

10 study, they're randomly assigned to

11 whether they're going to get treatment

12 or placebo. They don't know whether

13 they're getting treatment or placebo.

14 The doctors that were treating them

15 don't know whether they're getting

16 treatment or placebo.

17 QUESTIONS BY MR. MILLER:

18 Q. That would be double-blind,

19 wouldn't it?

20 A. Double-blind.

21 And the people who are

22 evaluating the outcome don't know who's

23 getting the drug and who's getting a placebo.

24 So in that kind of study, the

25 only error you have is random error.

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1 Q. So we can say that would be the  
2 gold standard. But there's still, you would  
3 agree, there's no such thing as a perfect  
4 study in epidemiology, is there?

5 MR. COPLE: Objection. Asked  
6 and answered. Vague.

7 QUESTIONS BY MR. MILLER:

8 Q. Or do you think so?

9 If you think there is such a  
10 thing as a perfect study, just tell us. Just  
11 need an answer. That's all.

12 A. Well, I don't know what you  
13 mean by "perfect."

14 Q. Have you ever used the word  
15 before?

16 A. Probably.

17 Q. Yeah, what does it mean?

18 A. Well, I'm interested in what  
19 you mean. You're asking me a question.

20 Q. You're the witness. We're  
21 going to accept your definition of the word  
22 "perfect."

23 A. Well, if I think about perfect  
24 and I define it as where one study would  
25 convince you of a result, I could conceive of

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1 a randomized clinical trial where that would  
2 be the case. But like I said, that's given  
3 the definition of "perfect" as being where  
4 one study would convince you.

5 Q. Okay. So going back to our  
6 definition of epi -- our index card,  
7 epidemiologists study people to identify  
8 factors that may cause or prevent disease.

9 And you pointed me to your work  
10 at Exxon where you, as an epidemiologist,  
11 studied people and you identify a factor that  
12 may cause a disease; is that fair?

13 A. That's what I did in that  
14 series of studies.

15 Q. And in the 16 years you were at  
16 Monsanto, did you ever do a study and  
17 identify a agent manufactured by Monsanto  
18 that caused a disease?

19 MR. COPLE: Objection. Vague.

20 THE WITNESS: Well, we've  
21 already established, at least by my  
22 definition, that it would be rare for  
23 anything other than the randomized  
24 clinical trial that I described that  
25 could be said in one study to identify

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1 a cause of disease.

2 QUESTIONS BY MR. MILLER:

3 Q. Did you do any study in the  
4 16 years that you were an epidemiologist for  
5 Monsanto Chemical Corporation where you  
6 showed in the study an association between an  
7 agent manufactured by Monsanto and a disease?

8 MR. COPLE: Objection. Vague.

9 THE WITNESS: The study that  
10 comes to mind is the study that we did  
11 of metal components manufacturing  
12 workers. We found that workers that  
13 had high exposure to cutting fluids  
14 had about a tenfold lower risk of, I  
15 think it was, colorectal cancer than  
16 workers who didn't have that exposure.  
17 So that was a pretty strong  
18 association.

19 QUESTIONS BY MR. MILLER:

20 Q. Negative association. Working  
21 at the plant actually reduced your odds of  
22 getting colorectal cancer?

23 A. Well, it was a cohort study, so  
24 we would say that our analysis showed that  
25 the rate for people who had exposure to these

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1 fluids was about ten times lower than the  
2 other workers at the plant who didn't have  
3 exposure to those fluids.

4 Q. Let's go to 1989. We're still

5 trying to get through the CV here.  
6 In 1989, you left Exxon, right?

7 A. That's right.

8 Q. Is the reason you left Exxon  
9 because you wrote a study that showed this  
10 cluster issue?

11 MR. COPLE: Object to the form  
12 of the question.

13 THE WITNESS: No.

14 QUESTIONS BY MR. MILLER:

15 Q. Why did you leave Exxon?

16 A. Different kind of opportunity;  
17 different part of the country to live in.

18 Q. Why did Monsanto all of a  
19 sudden in 1989 want to hire an  
20 epidemiologist?

21 MR. COPLE: Objection. Lacks  
22 foundation.

23 QUESTIONS BY MR. MILLER:

24 Q. You can answer.

25 A. The only thing I can tell you

♀  
00041

1 is I was hired. I can't tell you what their  
2 motivation was. I'd like to think it was  
3 because I was such a prolific researcher, and  
4 they thought that it would be a good thing to  
5 add another really good epidemiologist to  
6 their group.

7 Q. In the 16 years that you were  
8 at Monsanto Chemical Company, you never did a  
9 study yourself on whether or not Roundup  
10 caused non-Hodgkin's lymphoma, did you?

11 MR. COPLE: Object to the form  
12 of the question. Vague.

13 THE WITNESS: Well, we did do a  
14 mortality study at the plant where  
15 Roundup was manufactured.

16 QUESTIONS BY MR. MILLER:

17 Q. We're going to talk about that,  
18 but that's not a non-Hodgkin's lymphoma  
19 study. The study's an all-cause mortality  
20 study. You know the difference.

21 MR. COPLE: Objection.  
22 Argumentative.

23 THE WITNESS: Well, let me just  
24 say that, you know, we did evaluate  
25 the feasibility of doing such a study,

♀  
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1 and, you know, we formally walked the  
2 manufacturing process -- you've  
3 probably never walked the process, but  
4 you can imagine in a large chemical  
5 plant most of the parts of the process  
6 don't have glyphosate in it. They  
7 have the chemicals that are combined  
8 to make glyphosate.

9 So we found in the plant that  
10 there was a very small number of  
11 workers who actually worked in the  
12 part of the plant where glyphosate was  
13 in the chemical process and that there

14 was a small canning line where  
15 glyphosate was jugged, and then it was  
16 sent for distribution.

17 And if you know about  
18 non-Hodgkin's lymphoma, you know that  
19 the rate of non-Hodgkin's lymphoma is  
20 something on the order of a few per  
21 hundred thousand people.

22 QUESTIONS BY MR. MILLER:

23 Q. It's a rare cancer, you agree?

24 A. It's a rare cancer.

25 So it wouldn't be informative

♀  
00043

1 to do a study of a small number of people to  
2 study non-Hodgkin's lymphoma.

3 So we had --

4 Q. Go ahead. Finish. I don't  
5 want to interrupt you.

6 A. So we had specific criteria in  
7 mind to determine if a study was feasible,  
8 and we decided a study wasn't feasible.

9 So we decided we couldn't go  
10 down that path, and we tried to figure, you  
11 know, what we could do that would contribute  
12 to the epidemiology literature on glyphosate,  
13 and that led us to conceive the Farm Family  
14 Exposure Study.

15 Q. We're going to talk in detail  
16 about that, you might imagine, but I think in  
17 fairness to both of us and the jury, to be  
18 productive, I was asking in a broader sense,  
19 so let me lay some foundation.

20 You were hired in Monsanto 1989  
21 as an epidemiologist, right?

22 MR. COPLE: Object to the  
23 prefatory remarks as argumentative.

24 QUESTIONS BY MR. MILLER:

25 Q. You were hired --

♀  
00044

1 A. Yes.

2 Q. -- to be an epidemiologist at  
3 Monsanto. We agree with that, right?

4 A. I've already said yes.

5 Q. Okay. You hadn't, but I get to  
6 phrase things.

7 And we've agreed that  
8 epidemiologists study people to identify  
9 factors that may cause or prevent disease.

10 So my question is, sir, you're  
11 hired in '89 by Monsanto. You're there for  
12 16 years. And the truth is, you didn't do  
13 one study on the greater population in  
14 America or anyplace else that's exposed to  
15 Roundup to see whether it's increasing the  
16 risk of non-Hodgkin's lymphoma. You, John  
17 Acquavella, didn't do one study on that  
18 issue, true?

19 MR. COPLE: Objection.

20 Multiple, compound question and  
21 argumentative.

22 QUESTIONS BY MR. MILLER:

23 Q. You can answer.  
24 A. Well, it wasn't feasible for us  
25 to do a study of non-Hodgkin's lymphoma and

♀  
00045

1 glyphosate exposure. I mentioned we did  
2 evaluate it at the plant where glyphosate is  
3 manufactured.

4 But I think, you know, what  
5 probably best characterizes the way I've  
6 thought about contributing to the  
7 epidemiology of glyphosate is that we said,  
8 well, if it isn't feasible for to us do this,  
9 what could we do that would be really  
10 beneficial to the field. And so that led us  
11 to do the Farm Family Exposure Study.

12 Q. And we're going to talk about  
13 the Farm Family Study.

14 The Farm Family Study is a  
15 study about how much exposure farmers get  
16 when they use Roundup. It's not a study  
17 about whether or not Roundup causes  
18 non-Hodgkin's lymphoma.

19 MR. COPLE: Object to the form  
20 of the question.

21 THE WITNESS: So, you know, it  
22 depends on how you conceptualize  
23 research. But the way I think about  
24 conceptualizing research is -- maybe  
25 the first thing is to understand

♀  
00046

1 exposure. Otherwise, you're just  
2 doing statistical calculations without  
3 any sense of what the magnitude of  
4 exposure is.

5 And, you know, I've had  
6 experience in both the pharmaceutical  
7 industry and the occupational-  
8 environmental sphere. In the  
9 pharmaceutical industry, before you  
10 would study a chemical or a therapy or  
11 whatever, you would understand the  
12 biology flat out.

13 In the pesticide area, people  
14 just do a lot of calculations. And  
15 then they look at what they've gotten,  
16 and then they speculate about  
17 mechanisms, exposure and the like.  
18 It's not really informed.

19 So that's why, if you've read  
20 the paper I wrote about biological  
21 plausibility in pesticide epidemiology  
22 studies, I think there's real value in  
23 understanding these chemicals that  
24 you're studying, how frequently  
25 they're used. Farmers use glyphosate

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1 a couple days a year. And when they  
2 use it, how much glyphosate gets into  
3 their bodies is really the important  
4 thing. It doesn't matter how much

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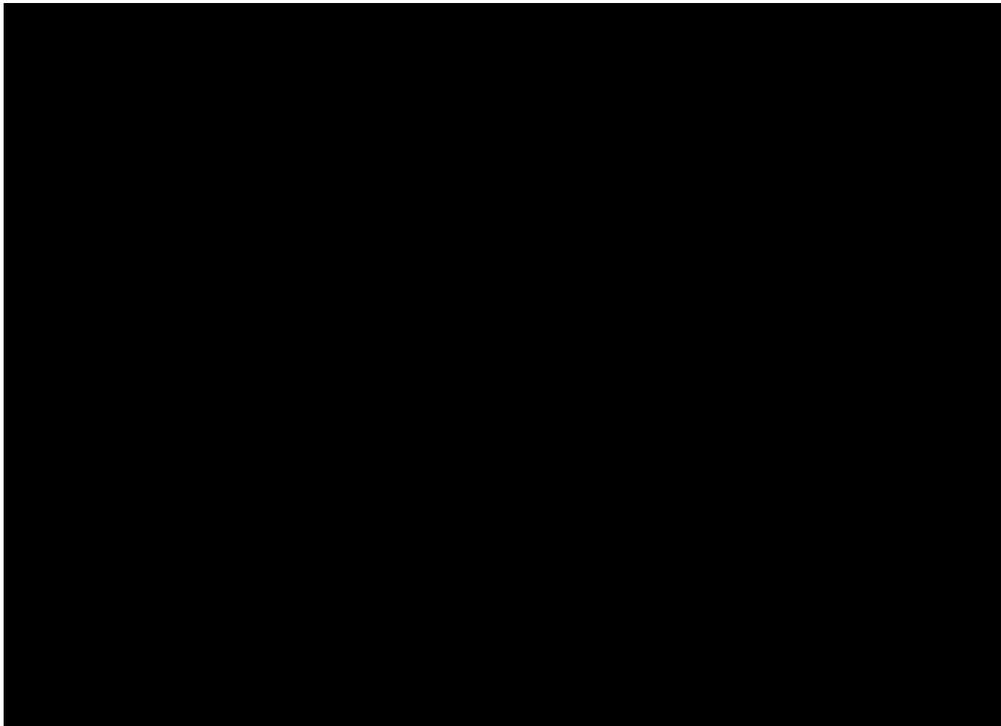
5 glyphosate they applied in their  
6 field; it depends how much got into  
7 their bodies.

8 And how does that compare with  
9 what else we know about the biology of  
10 glyphosate. Well, it turns out it's  
11 more than a millionfold less than the  
12 toxicology doses that were used to  
13 study carcinogenicity and  
14 genotoxicity.

15 So I always thought when I'm  
16 doing research we're thinking about  
17 plausibility, and a lot of people  
18 don't. So I thought, you know, one of  
19 the really good things we can do for  
20 people who do this kind of research is  
21 to do a really good study of how much  
22 glyphosate, and we also looked at 248  
23 chlorpyrifos, had entered the bodies  
24 of farmers who apply them.  
25

♀  
00048

1 QUESTIONS BY MR. MILLER:



3 QUESTIONS BY MR. MILLER:

4 Q. Okay. We'll look at the  
5 documents later.

6 Before we move on from your CV,  
7 ten years at Amgen as an epidemiologist,  
8 right? You were at Amgen drug company as the  
9 drug company's epidemiologist, right?

10 A. I was the head of epidemiology.  
11 I built their department. And we had about  
12 five epidemiologists when I joined. When I  
13 retired, we had about 50.

14 Q. And you never wrote a paper at  
15 Amgen saying any of their products caused any  
16 diseases, right?

17 MR. COPLE: Objection.  
18 Argumentative.

19 THE WITNESS: We were studying  
20 therapies.

21 QUESTIONS BY MR. MILLER:

22 Q. I didn't say you weren't  
23 studying therapies.

24 My question was more precise.  
25 At any time during the ten years you worked

♀  
00050

1 as global head of epidemiology at Amgen, did  
2 you ever write a paper that showed an  
3 association between any product Amgen made  
4 and a particular illness?

5 MR. COPLE: Objection. Vague.

6 THE WITNESS: So what my group  
7 did was we did the research about the  
8 natural history of disease that  
9 supported the development of clinical  
10 trials to find out if different  
11 medicines were beneficial. And then  
12 we also looked at the use of the drugs  
13 after they were in the -- in general  
14 medical practice.

15 We also did studies that the  
16 FDA required that they called  
17 postmarketing studies. We did them  
18 according to agreed protocols.

19 QUESTIONS BY MR. MILLER:

20 Q. Phase 4 studies we call them?

21 A. Right. Well, yeah.

22 Let me get back on my train of  
23 thought.

24 We also did studies that the  
25 regulatory agencies required,

♀  
00051

1 postmarketing -- what we call postmarketing  
2 commitments, both in the United States and in  
3 other world areas. And we did all of those  
4 according to protocols that were negotiated  
5 with the experts in that particular disease  
6 and medical area and the FDA and the EMA and  
7 the other regulatory agencies.

8 Q. Amgen produced a drug and sold  
9 it that was a bisphosphonate, right?

10 A. No.

11 MR. COPLE: Objection. Lacks  
12 foundation.

13 QUESTIONS BY MR. MILLER:

14 Q. Other things that you do since  
15 you've been a consultant for Monsanto  
16 in 2015, I think you said you started?

17 A. Sometime after I left Amgen.

18 Q. Yes, sir.

19 A. Within a month or two.

20 Q. Among the duties you've done  
21 for them is you've helped with a so-called  
22 expert panel called Intertek, right?

23 MR. COPLE: Object to the form  
24 of the question. Argumentative.  
25 THE WITNESS: So I was part of

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00052

1 the epidemiology panel in an overall  
2 four-expert panel review that was  
3 coordinated by Intertek.

4 QUESTIONS BY MR. MILLER:

5 Q. And you're also -- you've been  
6 asked as a consultant for Monsanto since 2015  
7 to help them respond to IARC's conclusion  
8 that Roundup was a probable human carcinogen  
9 for non-Hodgkin's lymphoma. It's been part  
10 of your job, too, as well, right?

11 MR. COPLE: Objection. Lacks  
12 foundation.

13 THE WITNESS: So maybe it's --  
14 I think it's much more accurate to say  
15 that I provide my assessment of  
16 scientific evidence, and then Monsanto  
17 decides how they're going to respond.

18 QUESTIONS BY MR. MILLER:

19 Q. So you never agreed to help  
20 them respond to IARC; is that your testimony?

21 A. I agreed to provide a  
22 scientific assessment of not only the IARC  
23 review but of studies that are in the  
24 literature and Monsanto's decision how to use  
25 that information.

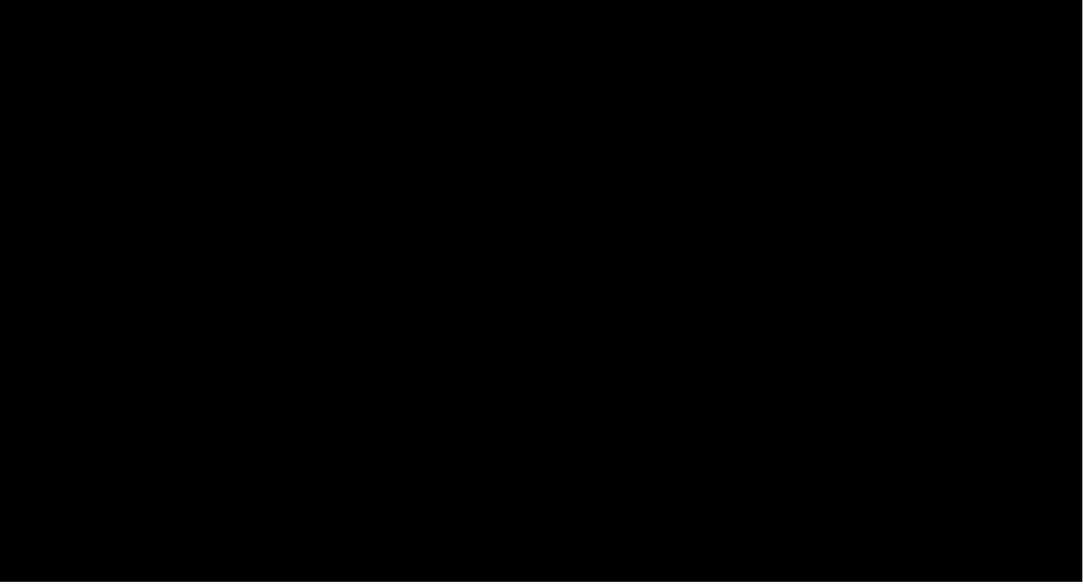
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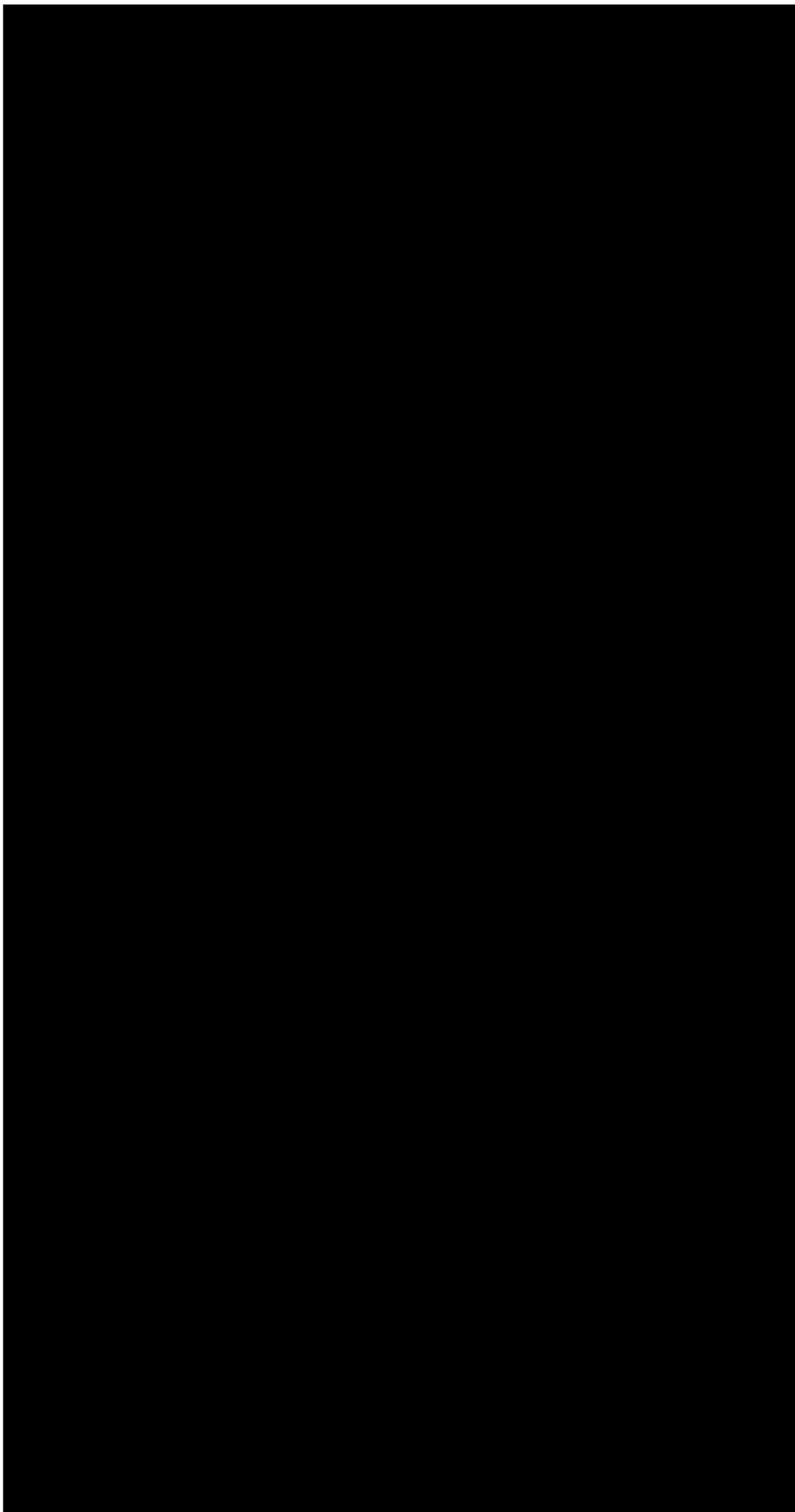
1 Q. You've agreed to work as a  
2 consultant for Monsanto since 2015 to help  
3 them respond to California's Proposition 65  
4 wherein California has declared Roundup a  
5 known cause of cancer. It's been part of  
6 your duties, hasn't it?

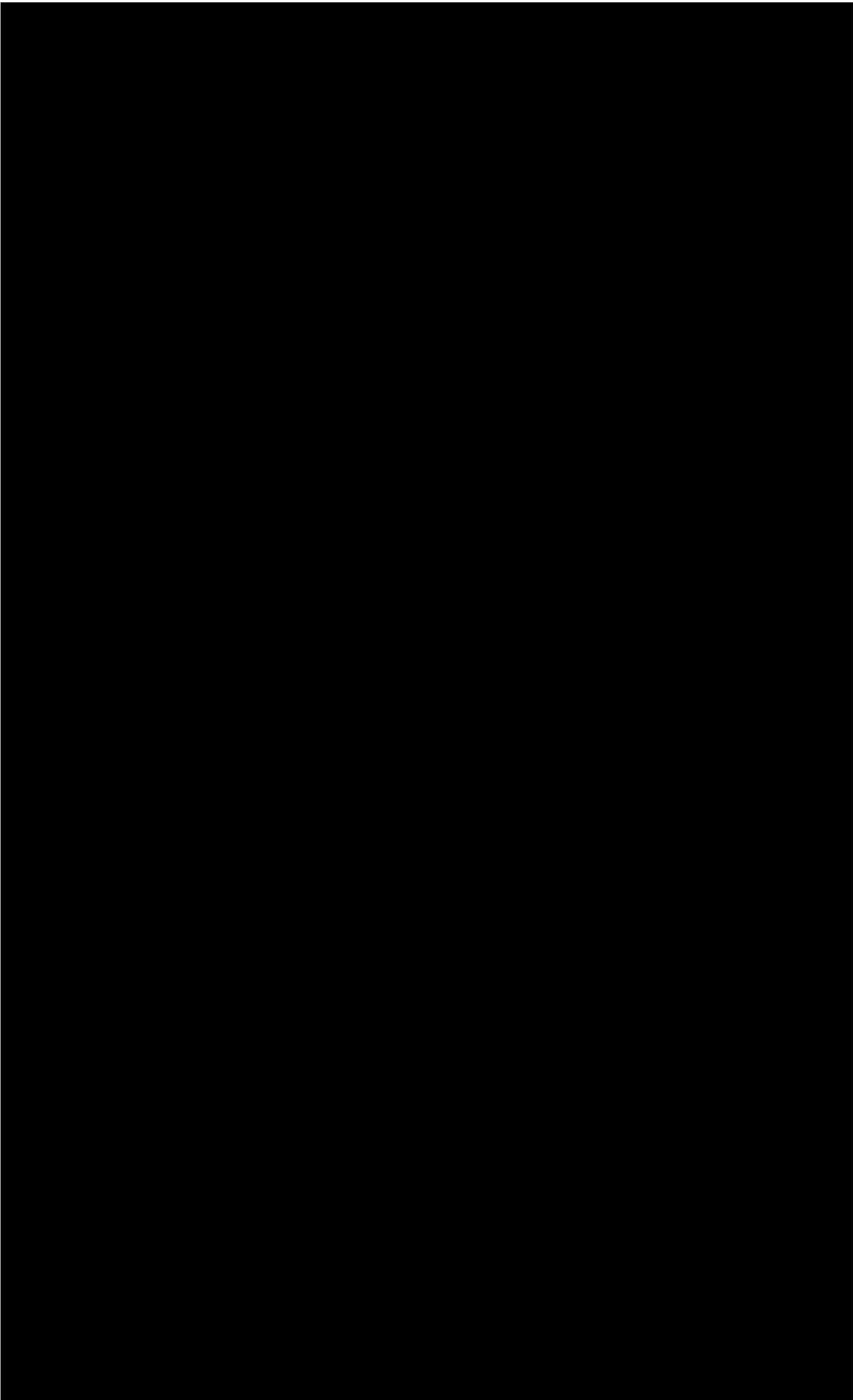
7 MR. COPLE: Object to the form  
8 of the question. Lacks foundation.

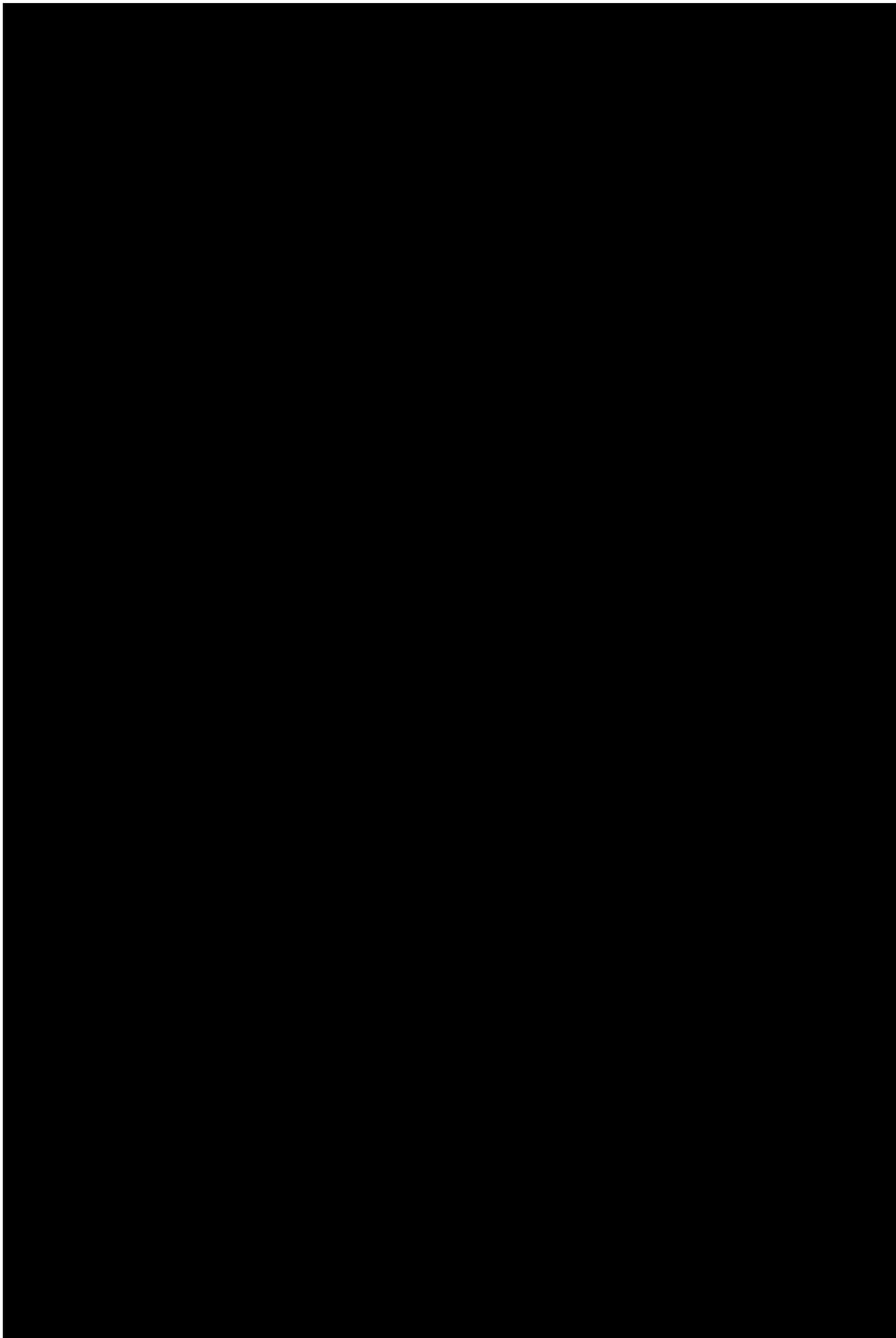
9 THE WITNESS: we'll just say  
10 that I didn't work in that -- I didn't  
11 do any work associated with Prop 65.

12 QUESTIONS BY MR. MILLER:











8 QUESTIONS BY MR. MILLER:

9 Q. Sir, you knew when you went to  
10 work with Monsanto that Roundup was the most  
11 important product that Monsanto produced,  
12 didn't you?

13 MR. COPLE: Objection to the  
14 form of the question. Vague.

15 THE WITNESS: I'm not sure  
16 that's true. 1989, glyphosate was  
17 still not a top ten herbicide in the  
18 United States. And believe me, when I  
19 began working with Monsanto, I didn't  
20 really even know that much about  
21 Monsanto when I started, and most of  
22 my research was actually on the  
23 industrial chemical side.

24 QUESTIONS BY MR. MILLER:

25 Q. By 1999, John Acquavella knew

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00063

1 that Roundup was the most important product  
2 for Monsanto, didn't you, sir?

3 MR. COPLE: Object to the form  
4 of the question. Vague.

5 THE WITNESS: By 1999,  
6 glyphosate was the most widely used  
7 herbicide.

8 QUESTIONS BY MR. MILLER:

9 Q. The most important product for  
10 Monsanto. You knew that in 1999, didn't you,  
11 sir?

12 MR. COPLE: Object to the form  
13 of the question. Asked and answered.

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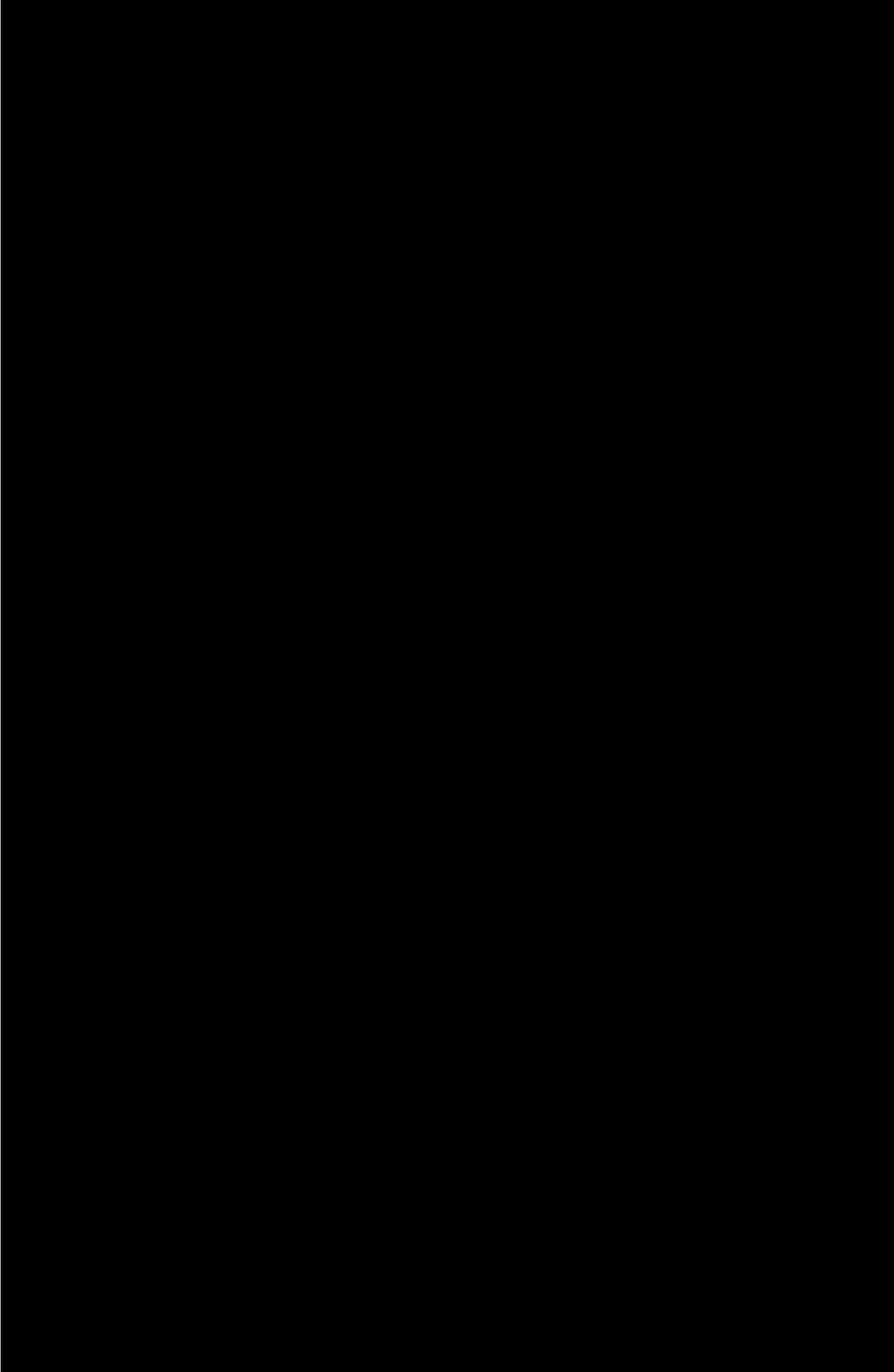
14 QUESTIONS BY MR. MILLER:

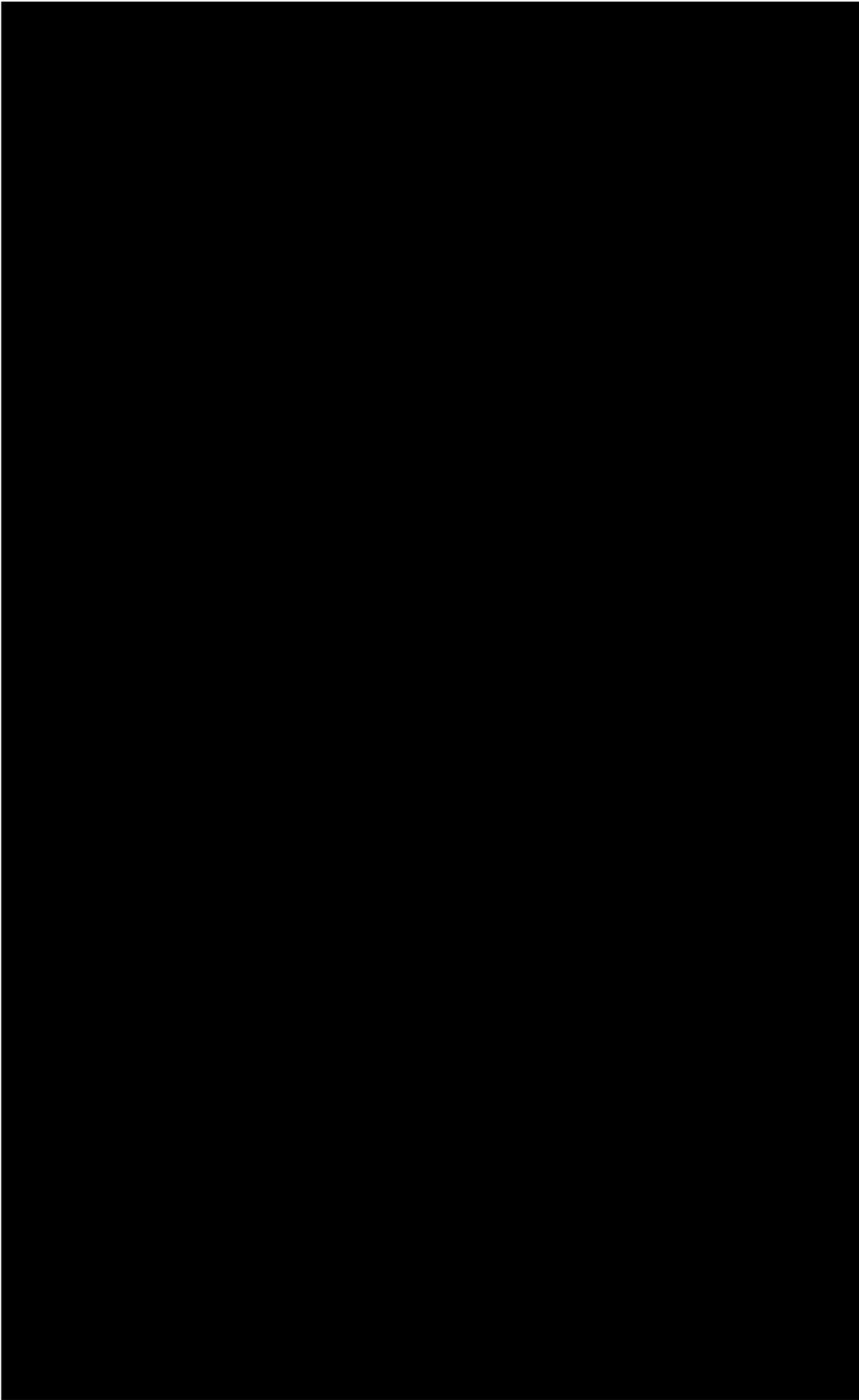
15 Q. You can answer.

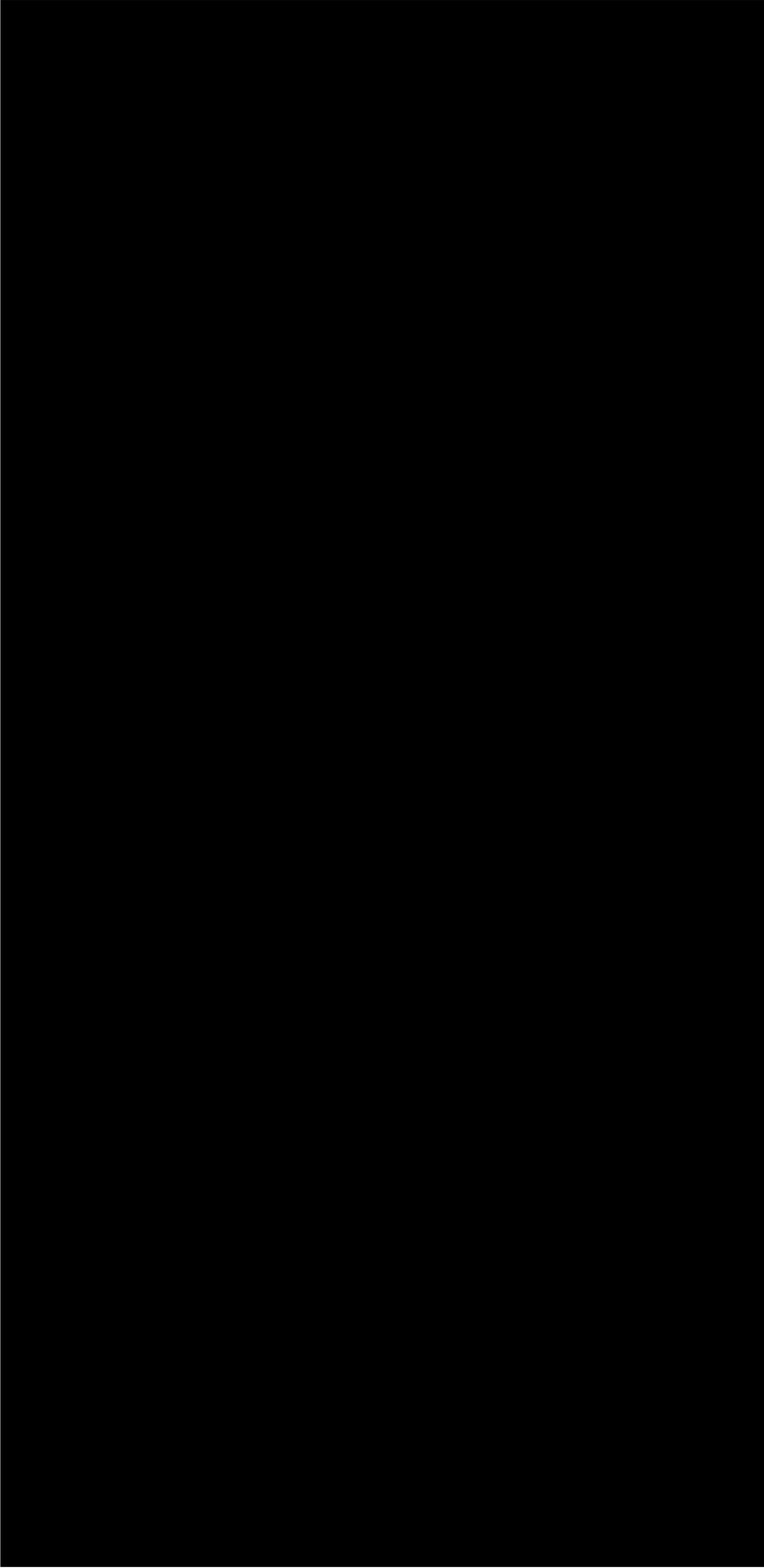
16 A. Obviously it was a very  
17 important product for Monsanto.

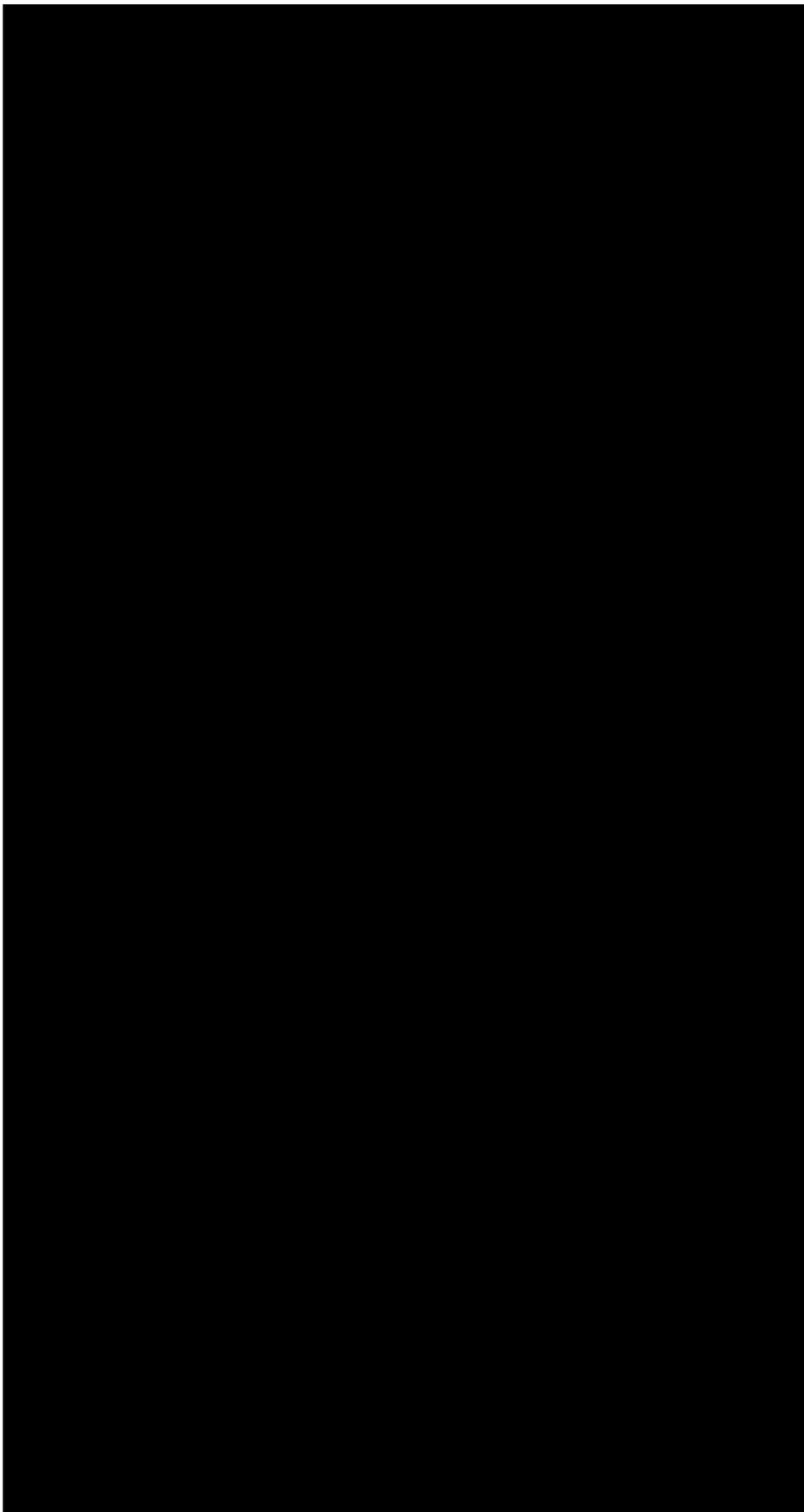
18 (Acquavella Exhibit 10-6 marked  
19 for identification.)

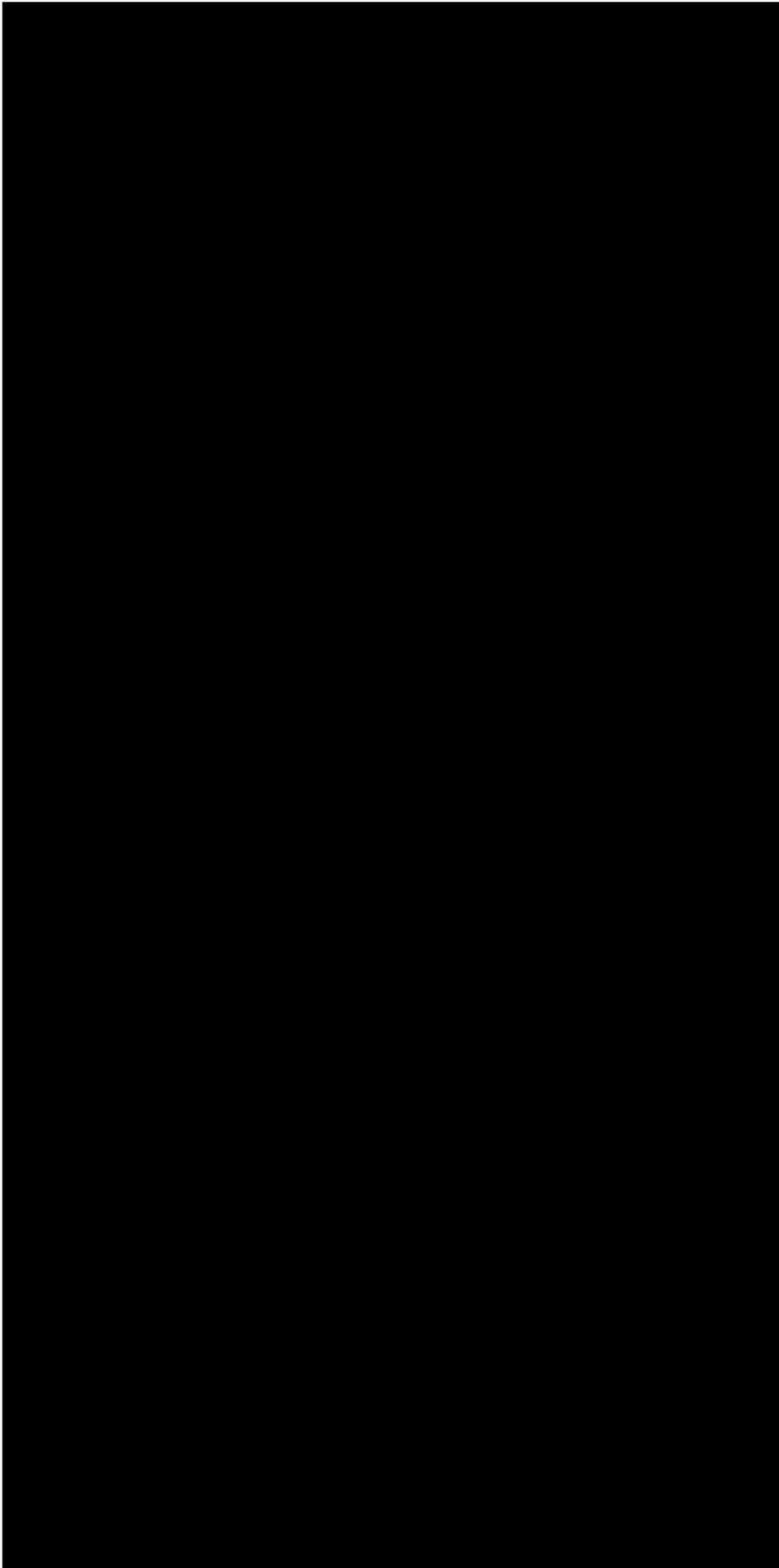
20 QUESTIONS BY MR. MILLER:

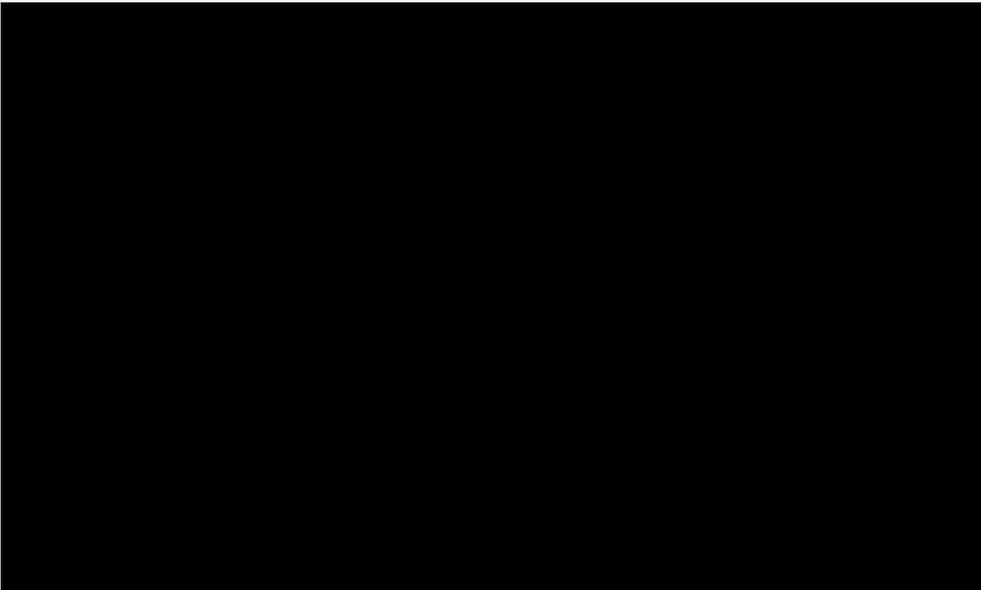












23 Q. And you raise a good point.  
24 Once somebody puts an article  
25 in the peer-review journals, other scientists

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1 rely upon that and perhaps may cite that  
2 article if they deemed it worthy of being  
3 cited. I'm not talking about Hardell, but  
4 generally that's part of the scientific  
5 process, isn't it?

6 MR. COPLE: Objection.  
7 Incomplete hypothetical.

8 THE WITNESS: Well, some people  
9 say peer review actually starts when  
10 an article is published. The biggest  
11 and the most probing, possibly, and  
12 the longest duration peer review  
13 starts once an article is published.  
14 Then you expose it to a broad  
15 cross-section of the scientific  
16 community.

17 The way I was trained in  
18 science and the way I train students  
19 is when you see something in the  
20 literature and you feel that you can  
21 add constructive criticism or other  
22 information that would be helpful in  
23 evaluating that study, you have an  
24 obligation to do so. And that's the  
25 way science works. There's kind of an

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00077

1 iterative process, a publication and  
2 scientific follow-up to what's been  
3 done, either in terms of criticism or  
4 other better studies.

5 And so I think every  
6 science-based company does that. They  
7 have a right to do that. It's  
8 perfectly appropriate to do that.

9 QUESTIONS BY MR. MILLER:

10 Q. And that's why it's important  
11 for so-called science-based companies or  
12 anyone who would write in their peer-reviewed  
13 literature certainly to not put ghostwritten

14 articles in the literature. That would be  
15 wrong, wouldn't it?

16 MR. COPLE: Objection.  
17 Argumentative. Lacks foundation.

18 QUESTIONS BY MR. MILLER:

19 Q. You can answer.

20 A. Well, not aware of any  
21 ghostwriting.

22 Q. I didn't ask if you're aware of  
23 or not, but would it be unethical to put  
24 ghostwritten articles in the stream of  
25 literature to be cited by other scientists?

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1 MR. COPLE: Objection.  
2 Argumentative. Incomplete  
3 hypothetical.

4 THE WITNESS: I think the  
5 authors listed on a paper should have  
6 provided their best scientific  
7 judgment in developing the paper and  
8 that they should be willing to stand  
9 by what they've written in their  
10 paper.

11 QUESTIONS BY MR. MILLER:

12 Q. And you've even told William  
13 Heydens, the employee at Monsanto, in an  
14 e-mail once that ghostwriting is unethical  
15 and shouldn't be done.

16 Do you remember that?

17 MR. COPLE: Objection.  
18 Argumentative. Lacks foundation.

19 THE WITNESS: So you are  
20 referring to kind of a  
21 miscommunication that happened between  
22 me and Dr. Heydens. We -- I was a  
23 full participant in the epidemiology  
24 panel. Bill Heydens' impression was  
25 that I was just a coordinator of the

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1 panel.

2 Once we established that I was  
3 a full participant in the expert  
4 panel, I was listed as an author. So  
5 there was no ghostwriting, and, in  
6 fact, I was the first author on the  
7 epidemiology publication.

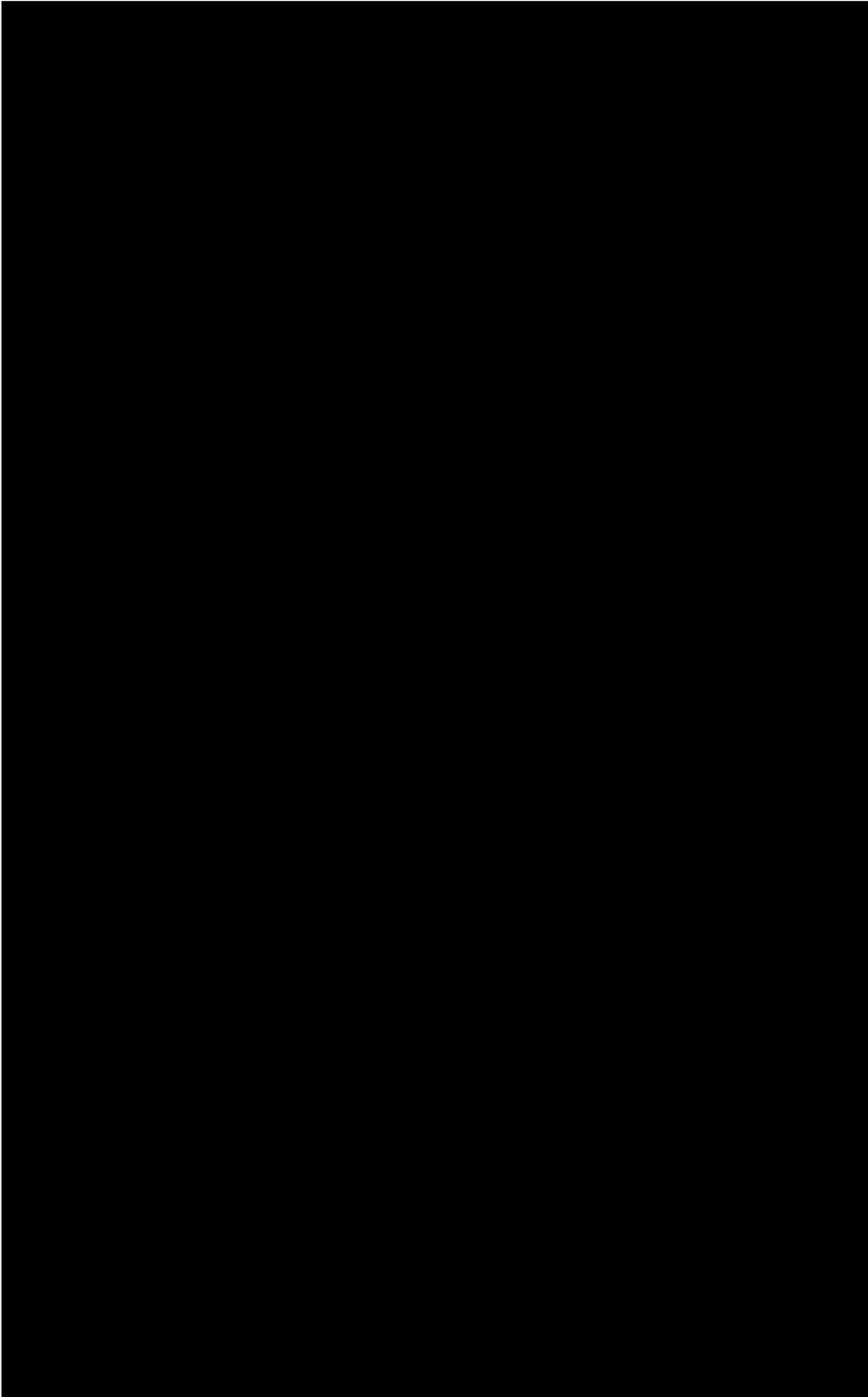
8 So the e-mails reflect the fact  
9 that the epidemiology panel worked  
10 independently enough for Dr. Heydens  
11 that he didn't really know what  
12 different people were contributing to  
13 the article.

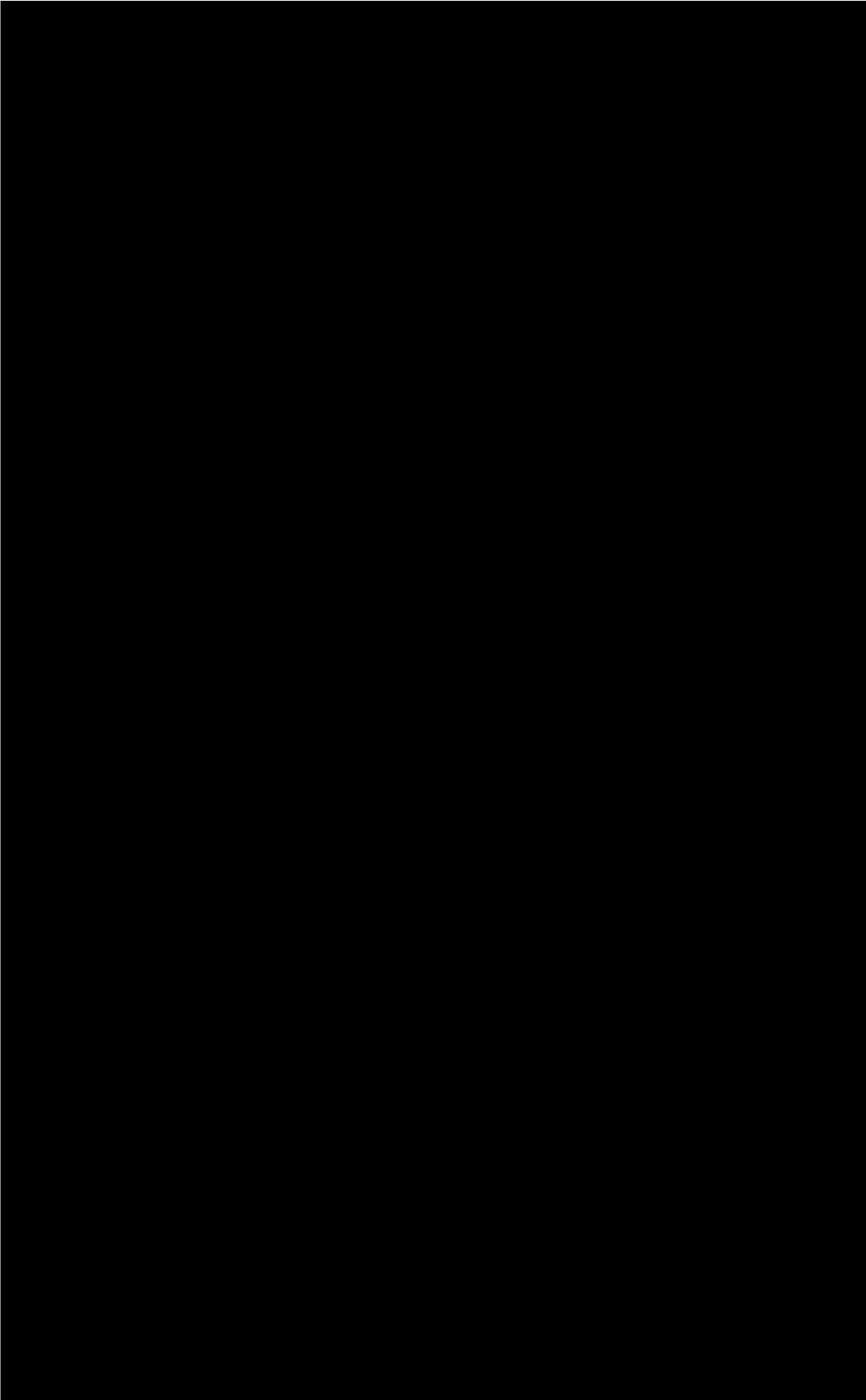
14 when I brought it up to  
15 Dr. Heydens' attention, he said,  
16 "well, yes, since you've done that,  
17 you need to be an author. That's  
18 appropriate given the guidelines for  
19 authorship."

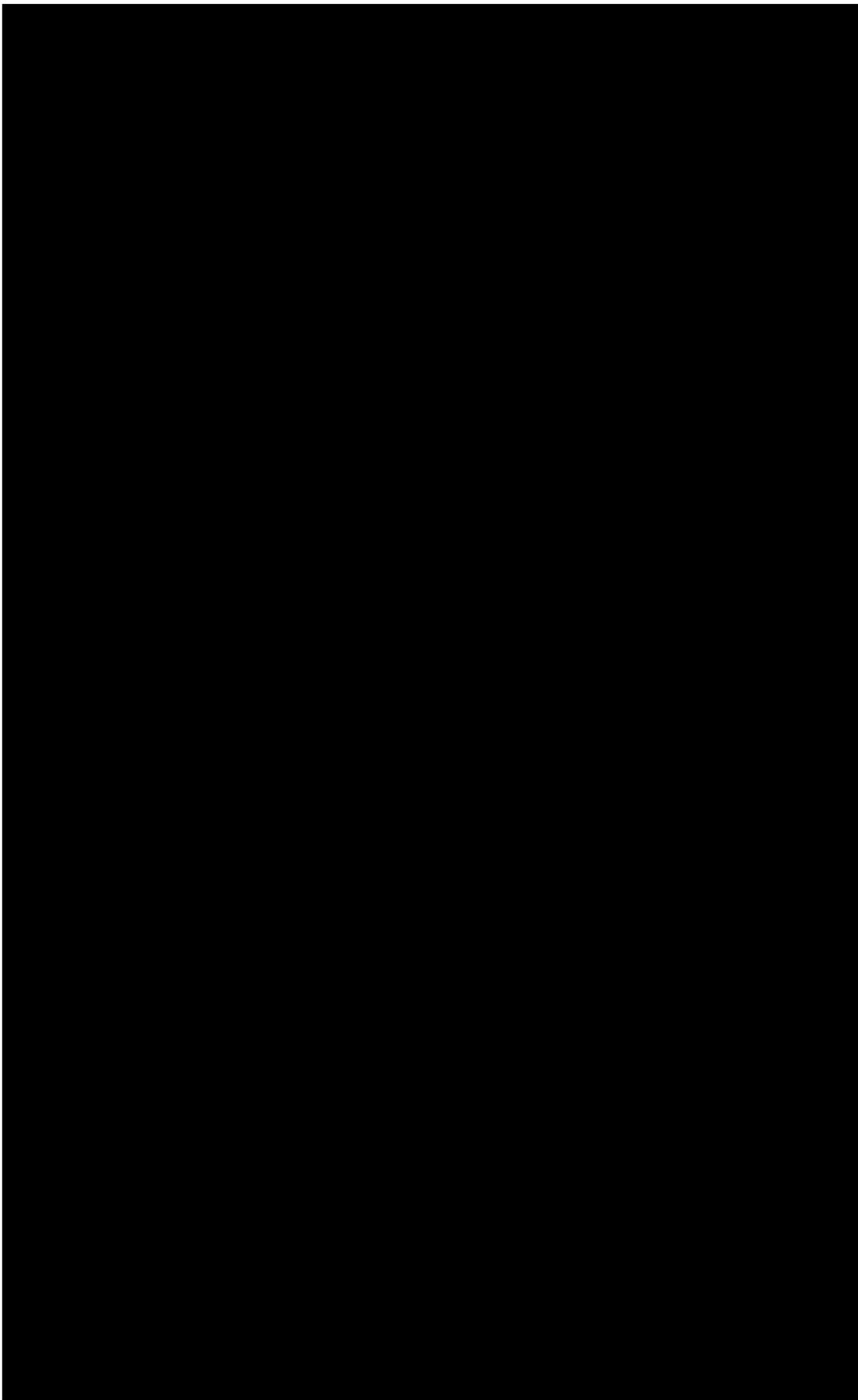
20 And I was an author on that  
21 article, on the summary article, and  
22 also on the abstract that our group

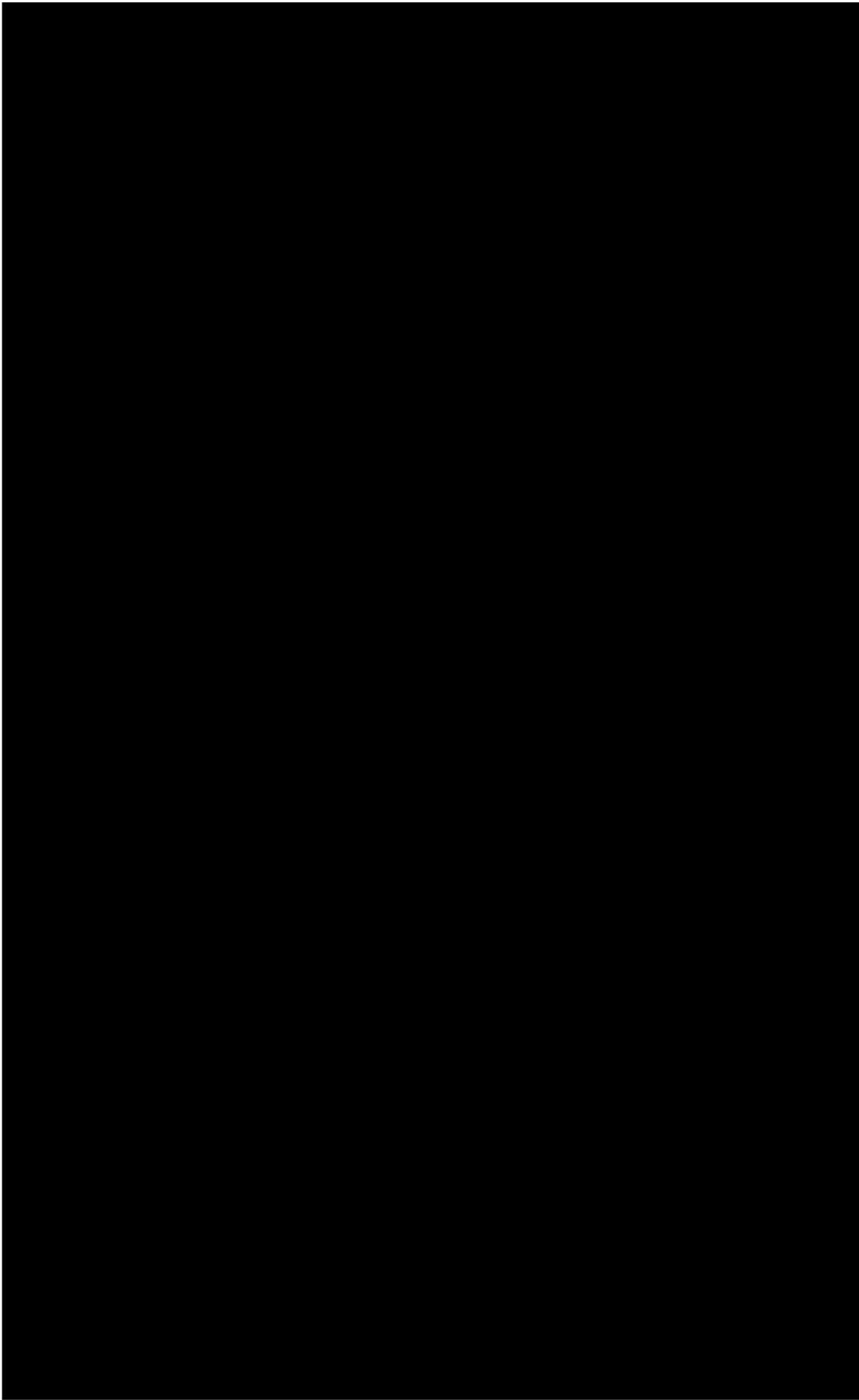
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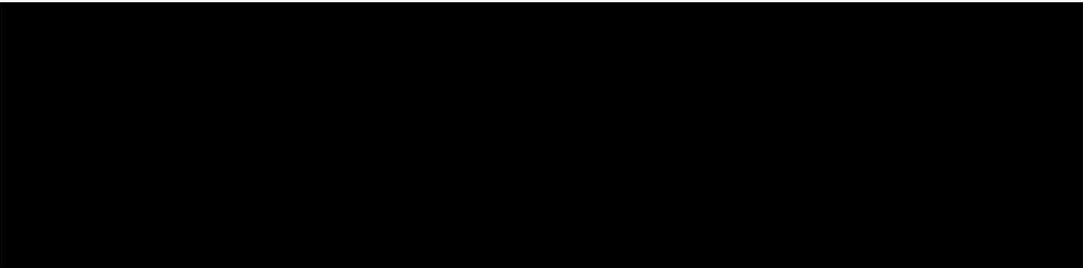
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submitted to the society for risk  
analysis.











12 MR. MILLER: We're going to  
13 stop now, take a break, call the  
14 judge. This is going nowhere. I  
15 don't care how much he gets paid an  
16 hour. He's going to have to be  
17 intellectually honest or we can't go  
18 forward. I'm entitled to get an  
19 answer.

20 MR. COPLE: Objection to your  
21 comment, Counsel.

22 MR. MILLER: Get the judge on  
23 the phone. This is bullshit.

24 VIDEOGRAPHER: We're going off  
25 record. The time is 10:25. This is

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1 the end of Media 1.

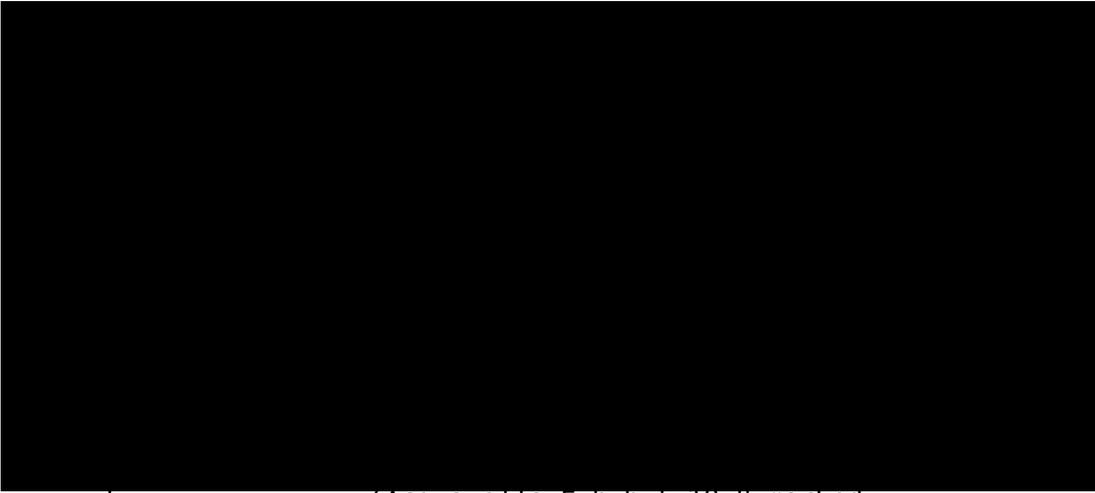
2 (Off the record at 10:25 a.m.)

3 VIDEOGRAPHER: We are going  
4 back on record. The time is 10:57.

5 This is the beginning of  
6 Media 2.

7 QUESTIONS BY MR. MILLER:





3 (Acquavella Exhibit 10-8 marked  
4 for identification.)

5 QUESTIONS BY MR. MILLER:

6 Q. This will be 10-8.

7 A. Yes.

8 Q. Yes, you remember writing this  
9 letter to the editor?

10 A. well, I remember that the three  
11 of us, myself, Dr. Farmer and Dr. Cullen,  
12 worked together to write the letter.

13 Q. Yes, sir.  
14 And that would be you, Donna  
15 Farmer and Mark Cullen at Yale, right?

16 A. Yes. Dr. Cullen was an  
17 occupational medicine physician and  
18 epidemiologist at Yale University.

19 Q. Yes, sir.  
20 And you're aware that Monsanto  
21 paid him for his participation in this?

22 A. You know, I don't remember what  
23 the financial arrangements were back then.  
24 I'd say as a matter of course, Monsanto and  
25 other companies that, you know, are

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1 science-based and have products that are  
2 backed up by science do try to work with the  
3 most qualified scientists in academia to  
4 address issues of importance to the company.

5 And I think we worked with Mark  
6 Cullen fairly regularly on issues of  
7 epidemiology over some part of my career at  
8 Monsanto, and so I assume he was compensated,  
9 but I don't know any of the specifics about  
10 that.

11 Q. Yes, sir.  
12 And the authors of the Hardell  
13 study, Dr. Hardell and Eriksson, felt  
14 strongly enough about your letter to reply,  
15 which is done in science, right, sir?

16 A. well, I wouldn't -- I don't  
17 know if they felt strongly or not. They  
18 replied, so I just take it at face value they  
19 replied.

20 Q. Yes.  
21 And it's listed here in this  
22 exhibit's author's reply, right, sir?

23 A. Yes.  
24 Q. And I want to ask you some  
25 things that they said.

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1 They go on to say, "In our  
2 article" -- "Furthermore, in our article, we  
3 cited results of our case-control study of  
4 hairy cell leukemia, a rare type of  
5 non-Hodgkin's lymphoma."

6 Did I read that correctly?

7 A. You read that correctly.

8 Q. "In a pooled analysis of both  
9 our studies of non-Hodgkin's lymphoma, we  
10 found a significantly increased risk for  
11 subjects exposed to glyphosate with an odds  
12 ratio of 3.04 with a 95 percent confidence  
13 interval."

14 Did I read that correctly, sir?

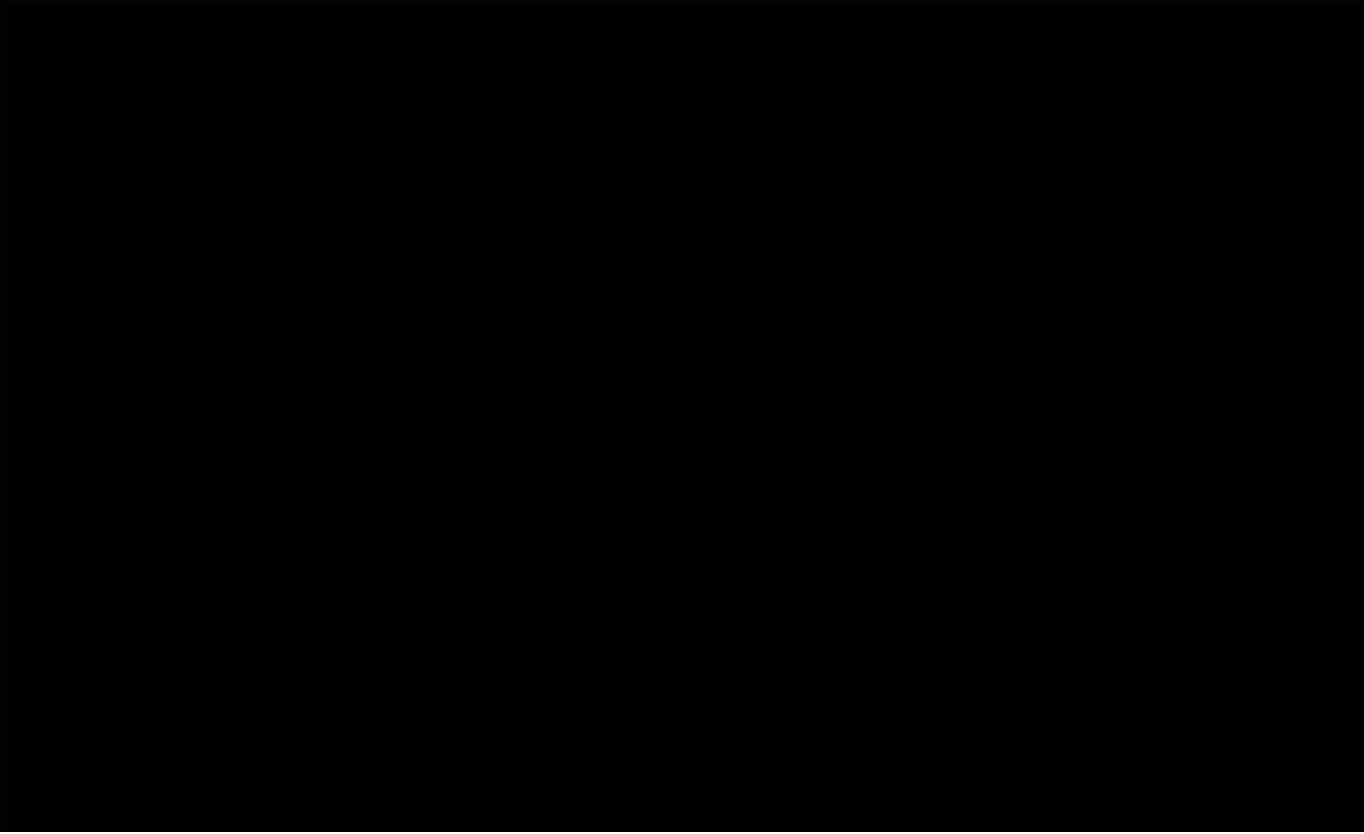
15 A. Yes, you read that correctly.

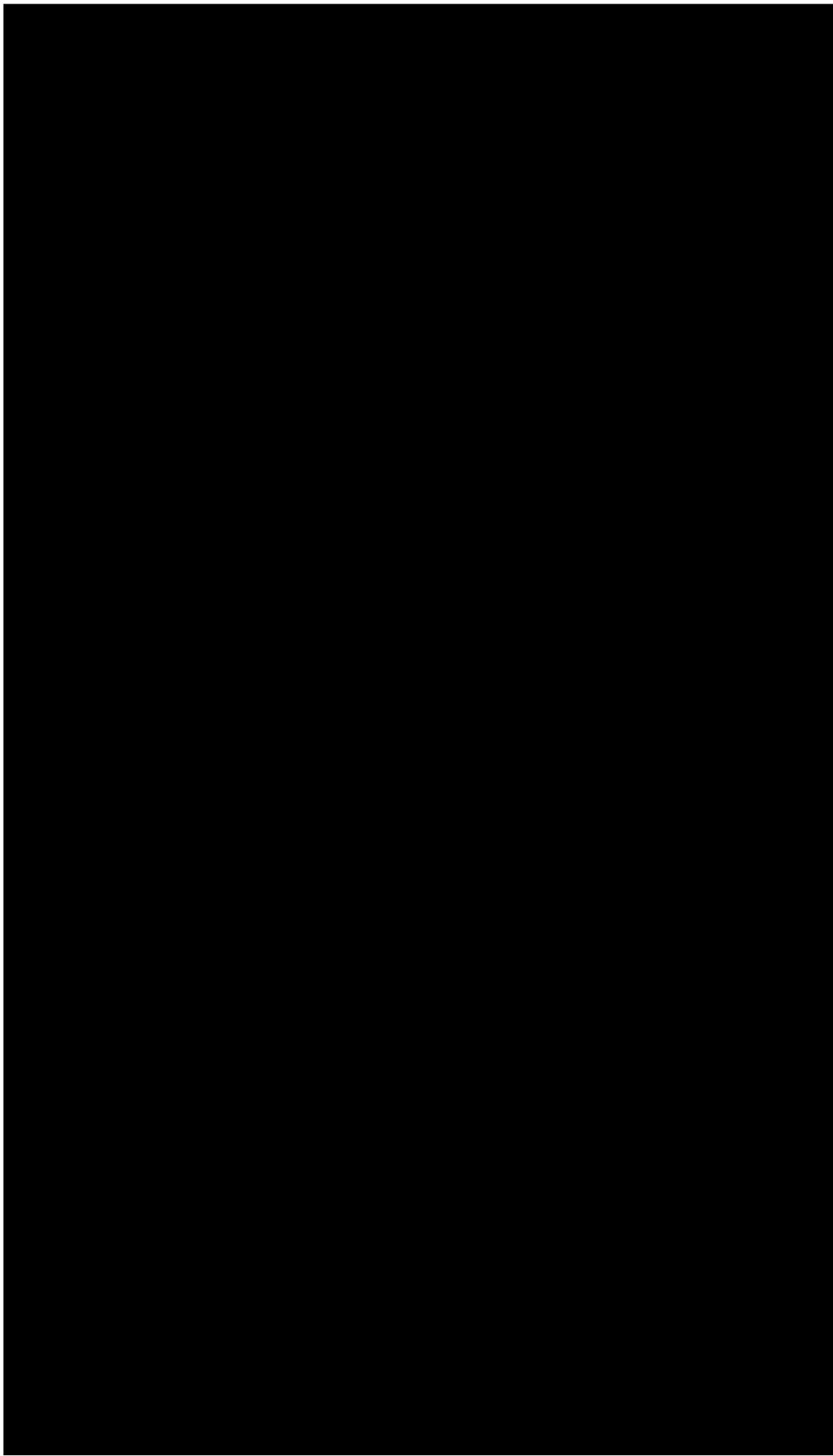
16 Q. Okay. And that -- by  
17 confidence interval, 95 percent confidence  
18 interval, what does that mean to you as an  
19 epidemiologist?

20 A. Well, if you could do a study  
21 without bias and only random error like the  
22 clinical trial I told you about before, and  
23 you repeated that study a hundred times,  
24 95 percent of the time the true value of the  
25 ratio of disease rates would be included in a

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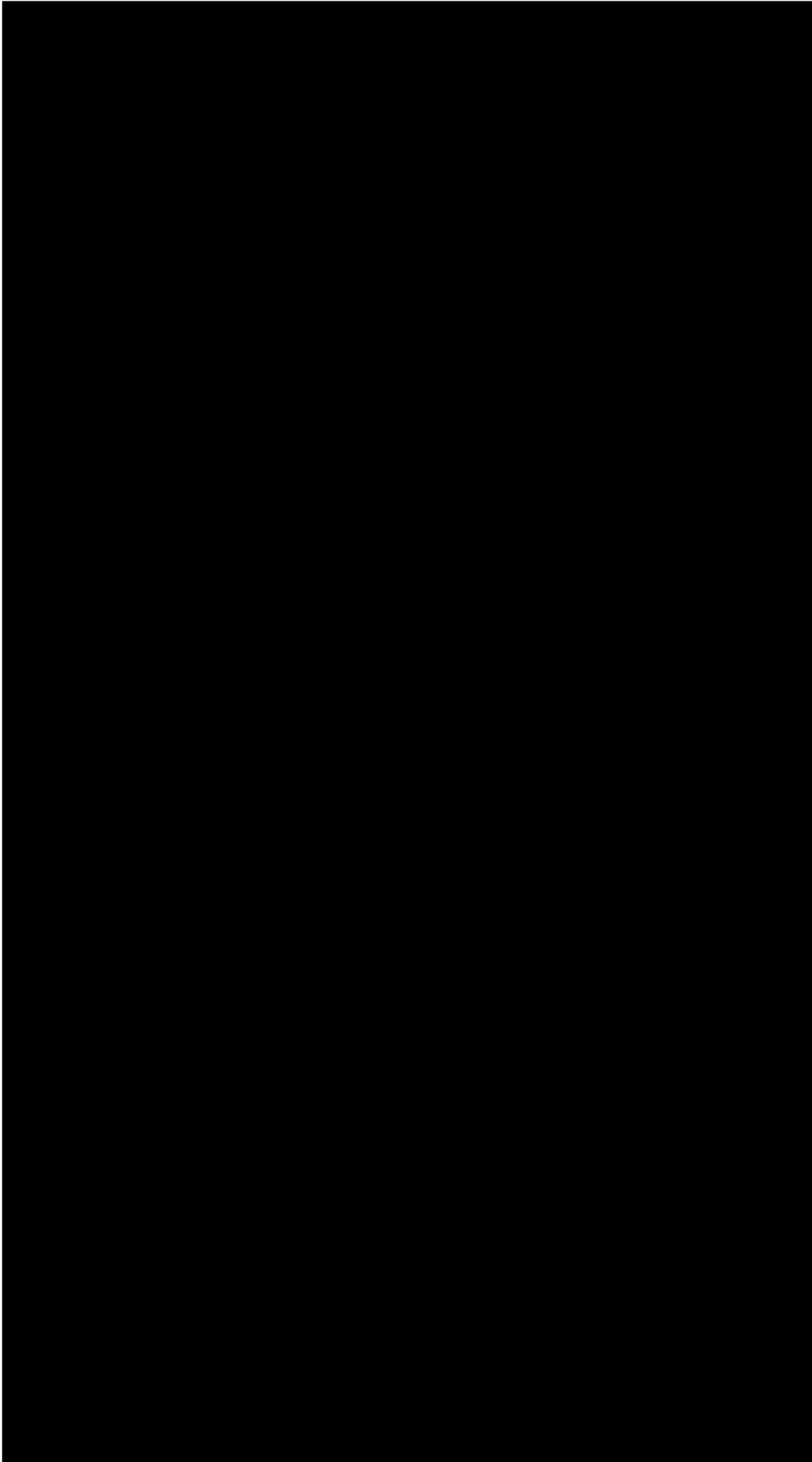
1 confidence interval.

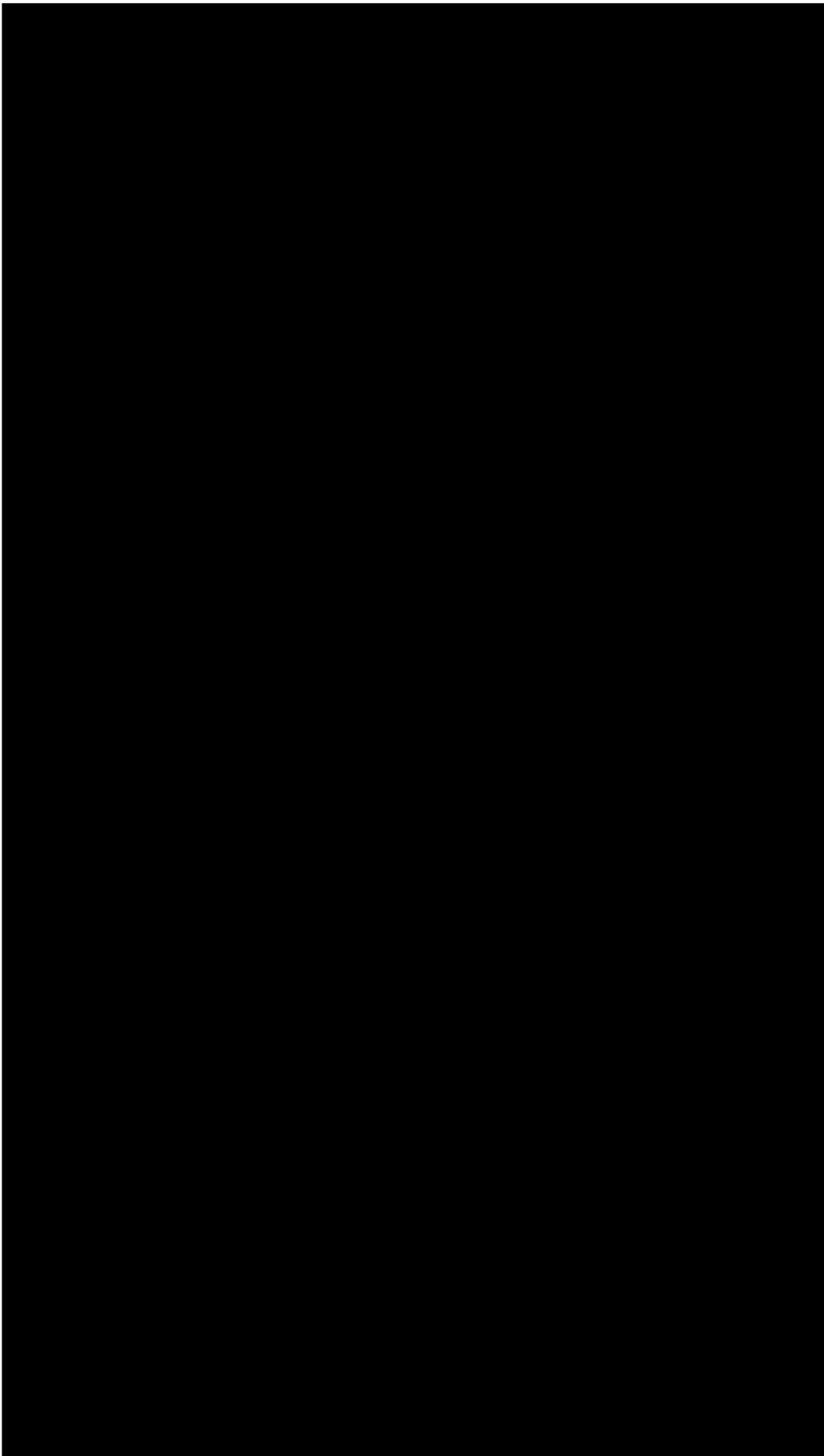


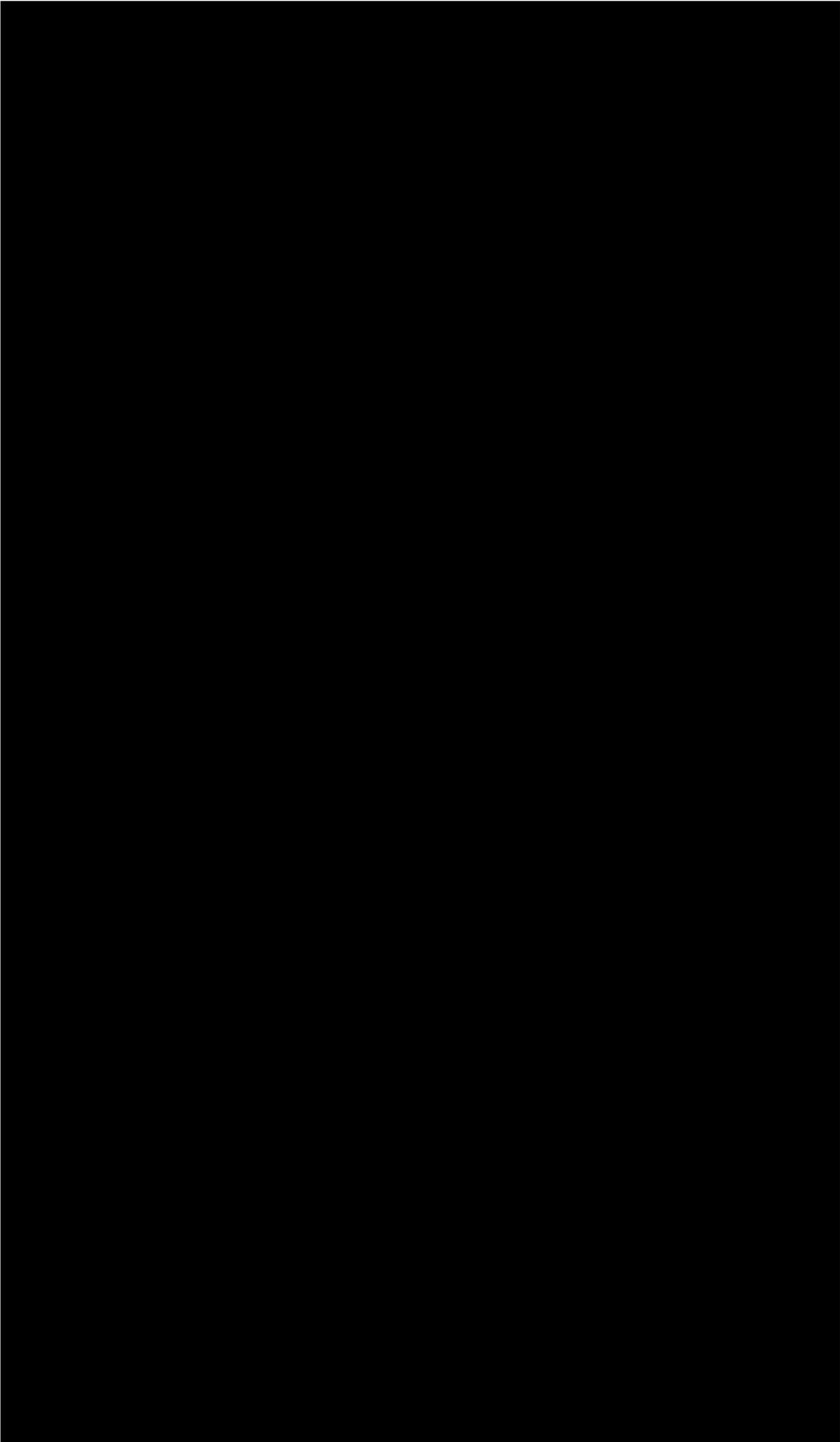


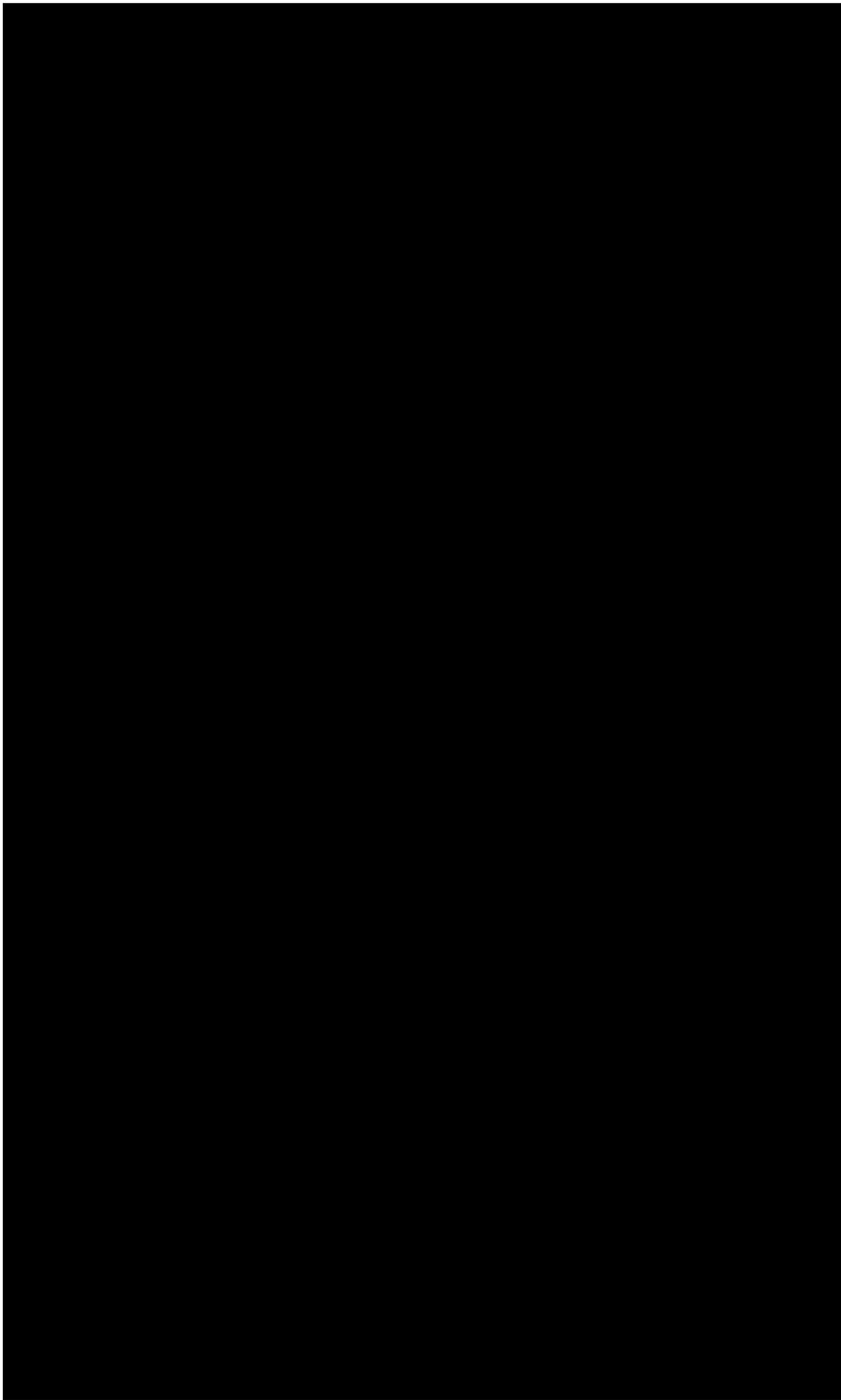


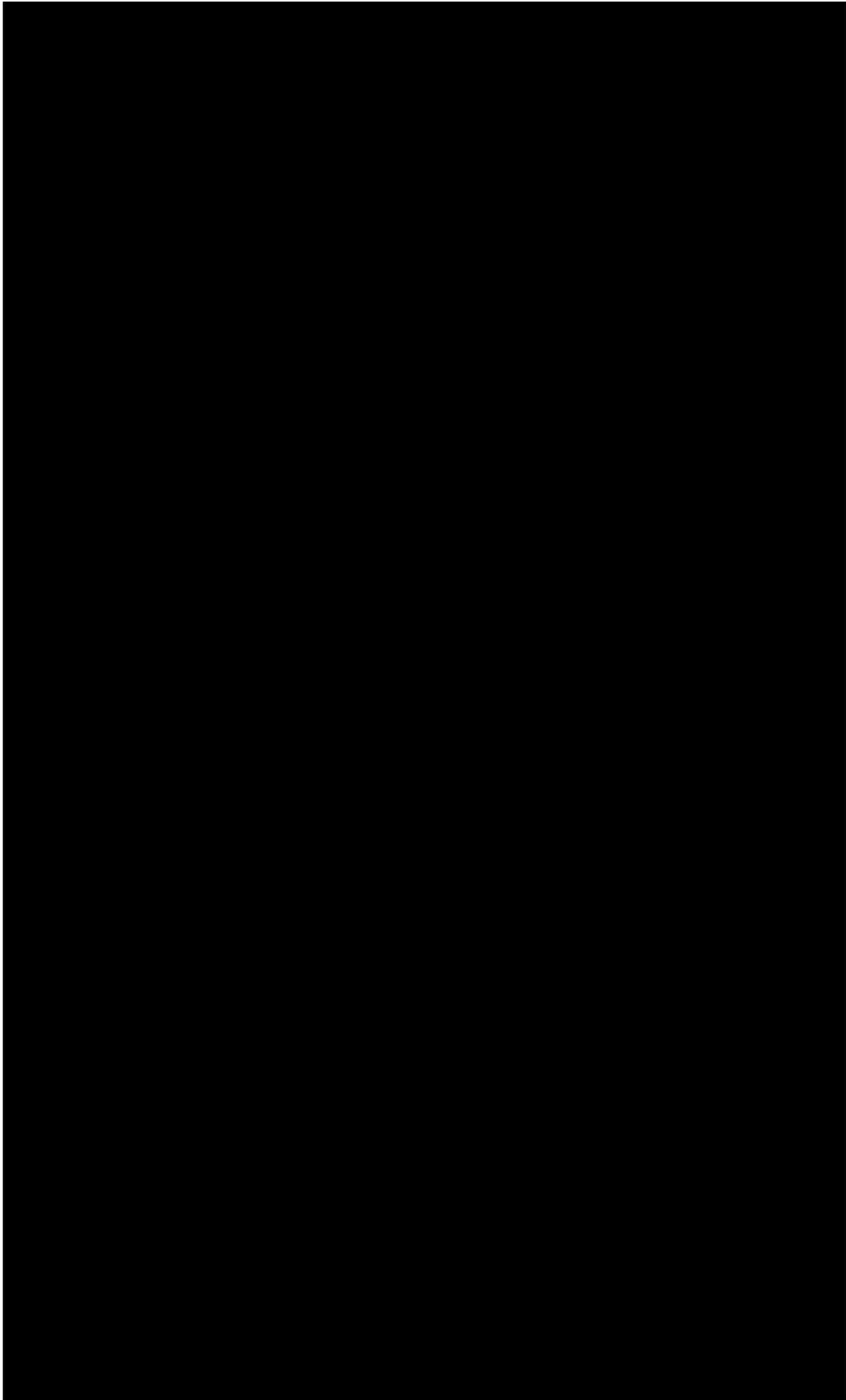


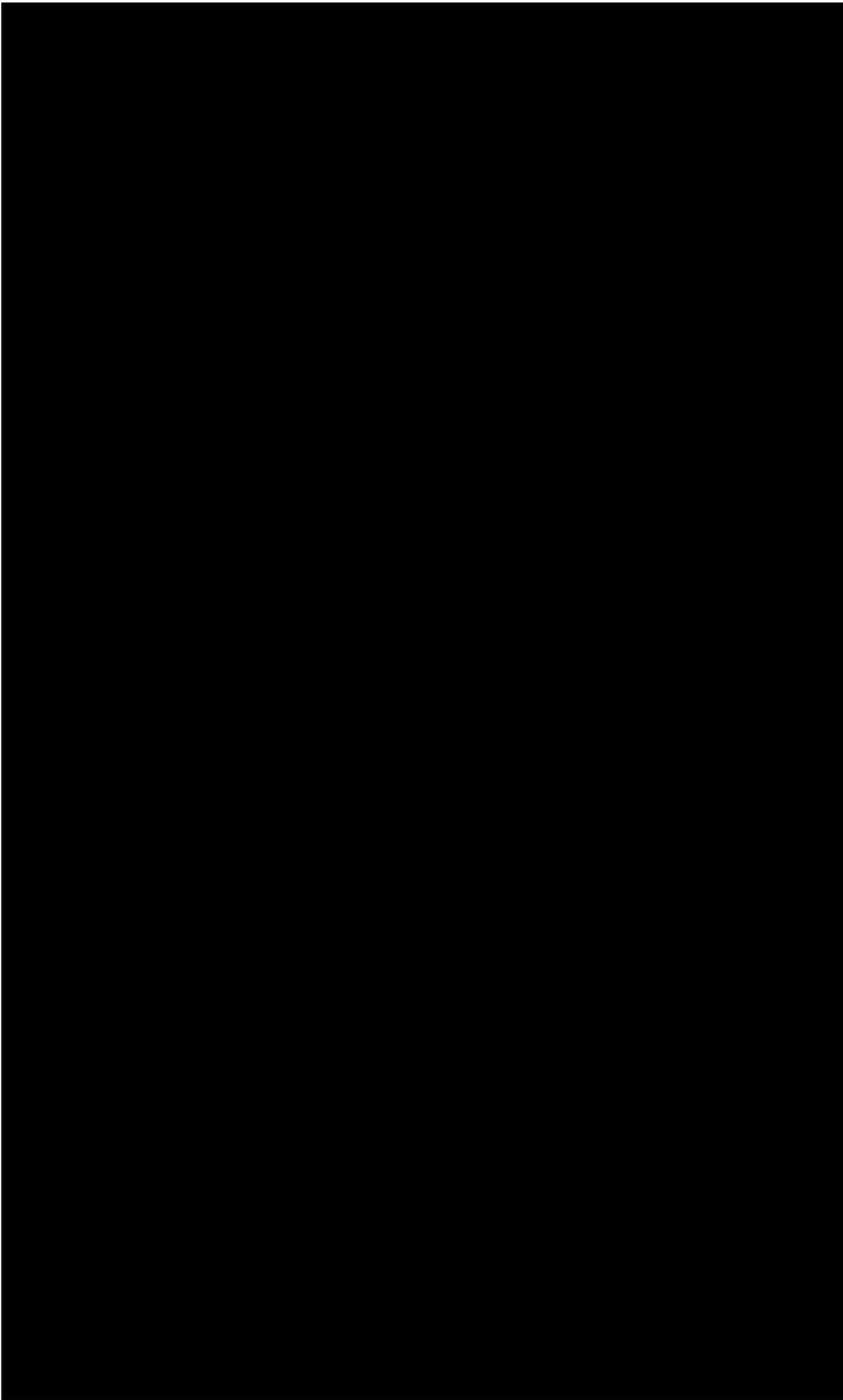


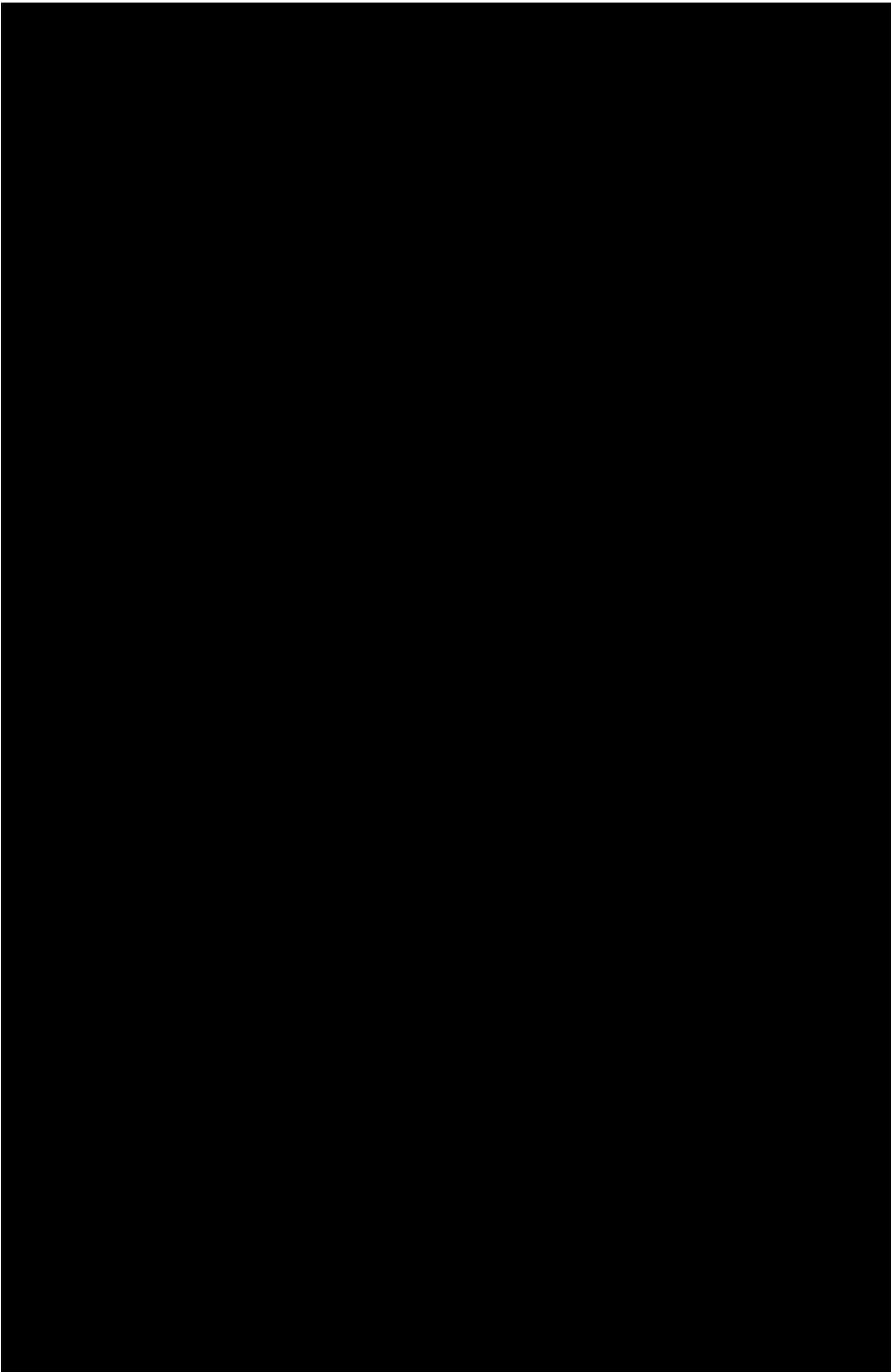


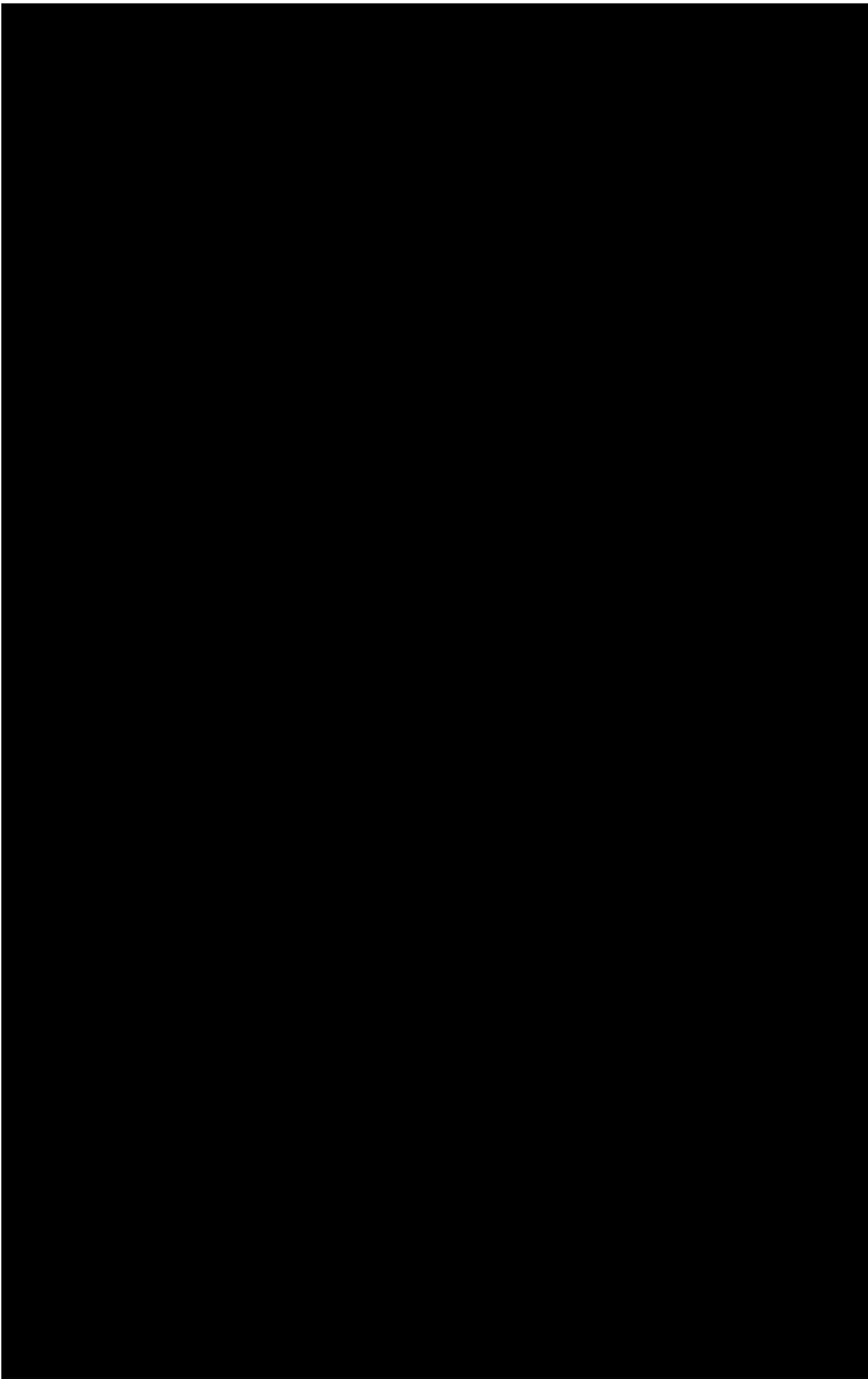


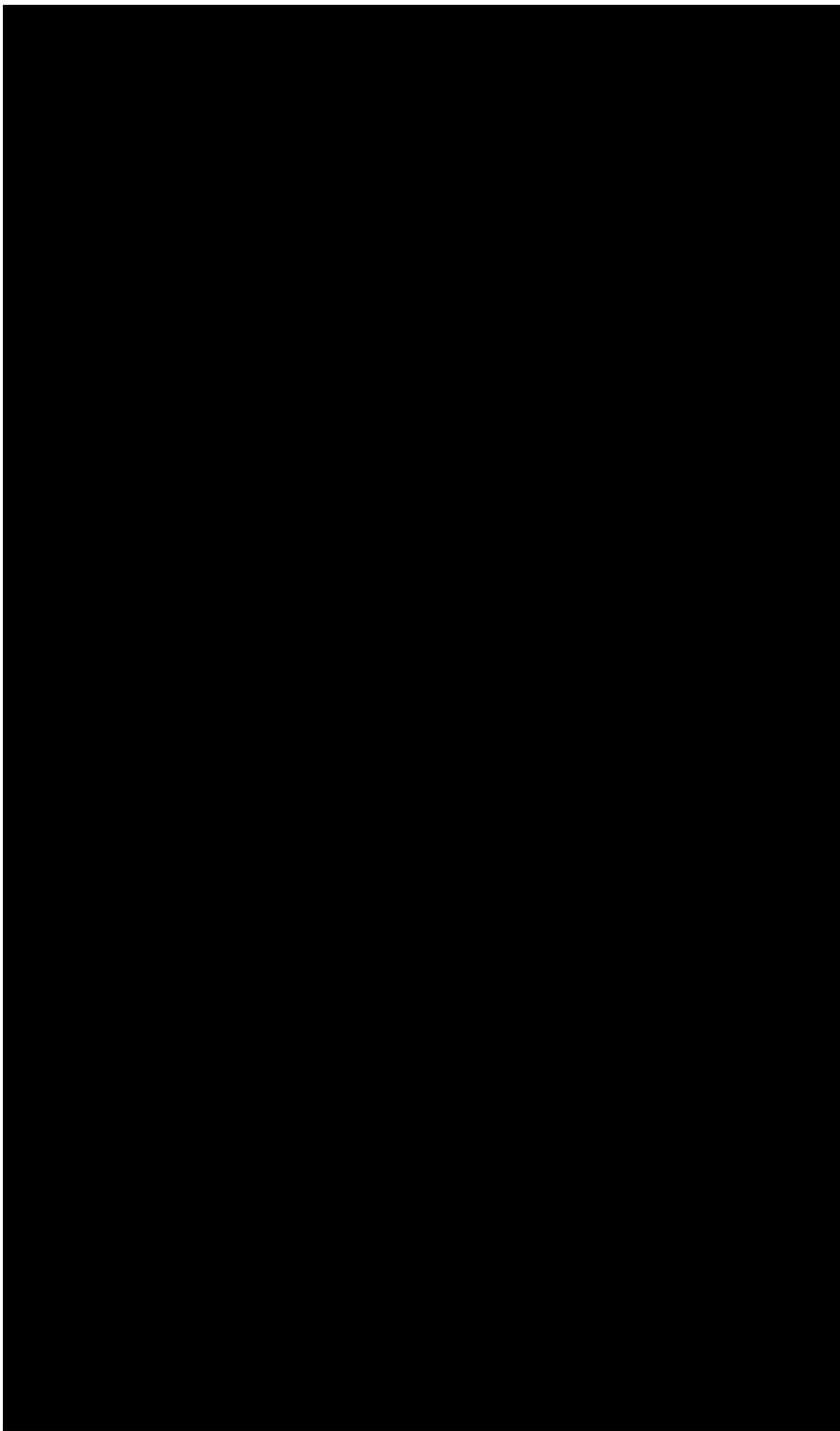








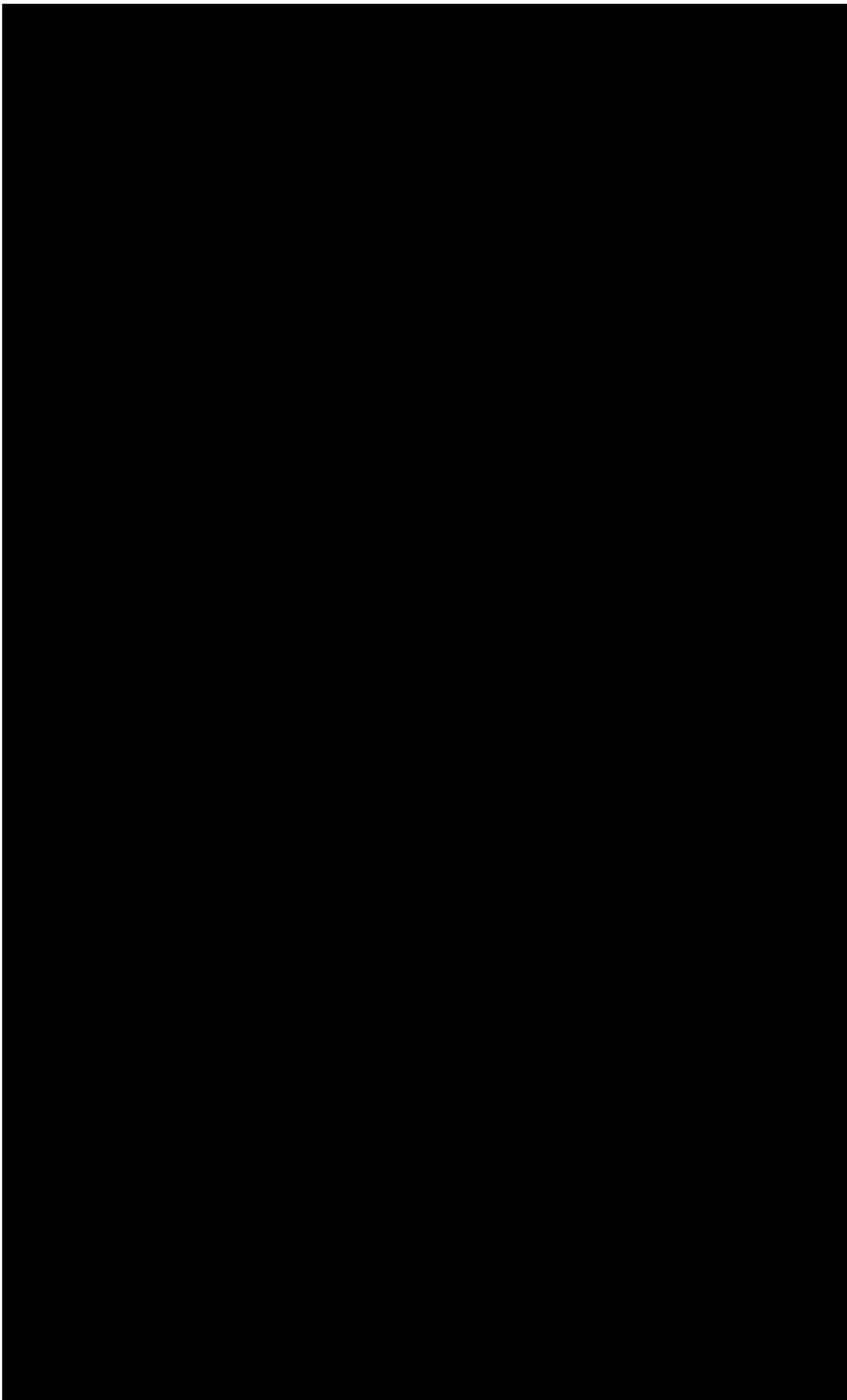




[REDACTED]

6 (Acquavella Exhibit 10-10  
7 marked for identification.)  
8 QUESTIONS BY MR. MILLER:  
9 Q. That's fair. I'm going to hand  
10 it to you right now.  
11 Here's a copy of it.  
12 Review it as much as you feel  
13 necessary, and then we'll have a few  
14 questions about it.  
15 A. Okay.  
16 Q. All set?  
17 A. I scanned it --  
18 Q. Okay.  
19 A. -- reasonably well.

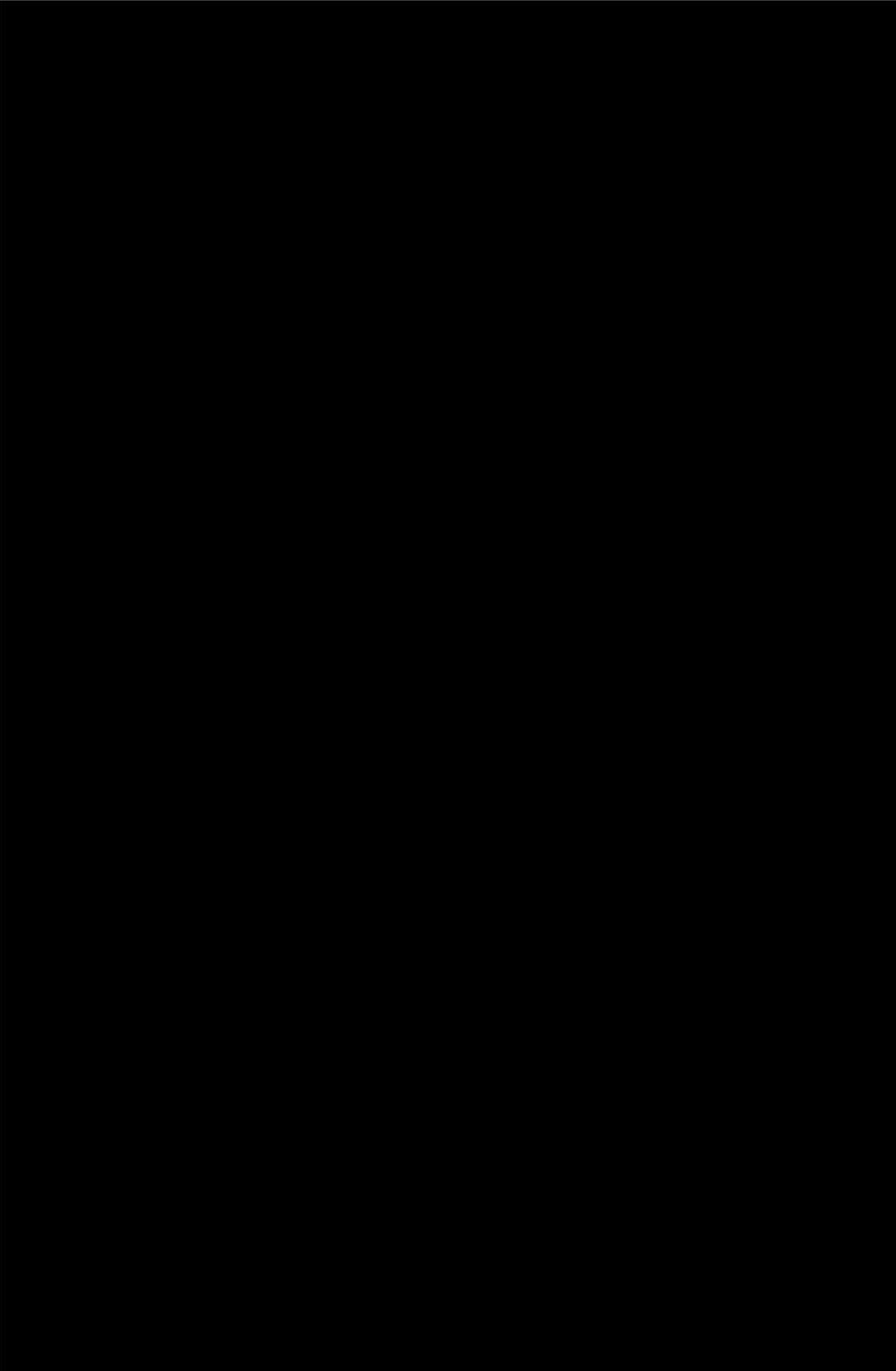
[REDACTED]





3 THE WITNESS: Can I see the  
4 document, please?  
5 MR. MILLER: You may, sir. It  
6 was produced to us in discovery by  
7 Monsanto, and we'll mark it as  
8 Exhibit 10-11.  
9 (Acquavella Exhibit 10-11  
10 marked for identification.)  
11 QUESTIONS BY MR. MILLER:  
12 Q. I have a copy for you and  
13 counsel.  
14 A. Okay. And you were referring  
15 to what?





10 QUESTIONS BY MR. MILLER:  
11 Q. Was the best science considered  
12 by California in developing Proposition 65?  
13 MR. COPLE: Objection.

14 Argumentative. Lacks foundation.  
15 THE WITNESS: Okay. I don't  
16 really know what they considered, so I  
17 don't know.  
18 QUESTIONS BY MR. MILLER:  
19 Q. Do you know that they've  
20 determined that glyphosate is a known cause  
21 of cancer for non-Hodgkin's lymphoma?  
22 MR. COPLE: Objection. Lacks  
23 foundation.  
24 THE WITNESS: So, you know, I  
25 worked in California for ten years,

♀  
00134

1 and you could walk into a room that  
2 doesn't have anything in it, and  
3 there's a sign on the room, "there may  
4 be things in this room that cause  
5 cancer."  
6 So I don't know. You know, I  
7 lived in California. I always  
8 scratched my head when I saw that  
9 stuff.  
10 So you tell me that they say  
11 that; maybe they did. But, you know,  
12 I think you'd probably still go into  
13 that room and I would still go into  
14 that room.  
15 So I don't know what -- how  
16 they make those determinations, but,  
17 you know, California is California.  
18 QUESTIONS BY MR. MILLER:  
19 Q. And Canada is Canada. They  
20 restricted, the regulatories there, the use  
21 of glyphosate in parks and around children,  
22 haven't they?  
23 A. I don't know about Canadian  
24 regulation. I don't remember about Canadian  
25 regulation.

♀  
00135

1 Q. And the country of Colombia has  
2 restricted the use of glyphosate, haven't  
3 they?  
4 MR. COPLE: Objection. Lacks  
5 foundation.  
6 THE WITNESS: I'm not a  
7 regulatory --  
8 QUESTIONS BY MR. MILLER:  
9 Q. You mentioned regulatory  
10 agencies, and that's why I'm just following  
11 up.  
12 The European regulators have  
13 restricted the use of glyphosate, have they  
14 not?  
15 MR. COPLE: Objection. Lacks  
16 foundation. Vague.  
17 THE WITNESS: I'll just say I  
18 don't know all the different  
19 regulations that have happened in  
20 Europe. I was actually at the  
21 European regulatory authority three  
22 weeks ago in Helsinki, and their

23 evaluation was that glyphosate is not  
24 likely to pose a risk to humans.  
25

♀  
00136

1 QUESTIONS BY MR. MILLER:



12 QUESTIONS BY MR. MILLER:

13 Q. You and I can agree that the  
14 public has a strong interest in research  
15 articles that are accurate, clear and  
16 unbiased?

17 MR. COPLE: Object to the form  
18 of the question.

19 THE WITNESS: I think the  
20 public is interested in information  
21 that is scientifically valid. I  
22 think, you know, actually reading the  
23 scientific articles, per se,  
24 especially in highly technical areas,  
25 is something that the general public

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00138

1 would have difficulty with, but I  
2 think they like to know that the  
3 science information that they're  
4 hearing is valid.

5 (Acquavella Exhibit 10-12  
6 marked for identification.)

7 QUESTIONS BY MR. MILLER:

8 Q. I want to show you an article  
9 you wrote, or a commentary, Exhibit 10-12,  
10 where I think you agreed with what I had to  
11 say. Let's find out on 10-12. A copy, sir,  
12 for you, Doctor. Counsel.

13 A. Yes.

14 Q. Do you remember writing  
15 Exhibit 10-12 with these other two persons,  
16 people? Persons? People?

17 A. Yes, Dr. Sturmer and  
18 Dr. Hallas, yes.

19 Q. And one of the things you  
20 wrote, and it was -- this is concerning a  
21 statement, a new policy, relationships,  
22 International Society of Pharmacoepidemiology  
23 statement on "American Society of Clinical  
24 Oncology: New Policy For Relationships With  
25 Companies," right?

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00139

1 That's what the title of your  
2 commentary was, right, sir?

3 A. Well, that was the title. It  
4 was actually a draft policy that the American  
5 Society for Clinical Oncology put out in  
6 their journal.

7 The Pharmacoepidemiology  
8 Association, actually a number of other  
9 associations, wrote letters or wrote articles  
10 like this, communicated to the American  
11 Society for Clinical Oncology that this  
12 amounted to censorship and advised them not  
13 to implement this policy. And subsequently  
14 they didn't implement the policy.

15 Q. You agreed when you wrote this,  
16 "The public has a strong interest that  
17 research articles in biomedical journals are  
18 accurate, clear and unbiased."

19 Did I read that correctly?

20 MR. COPLÉ: Object to the form  
21 of the question.

22 THE WITNESS: Yes. I mean, I  
23 probably would say the -- since the  
24 public oftentimes doesn't read these  
25 articles directly but -- you know, the

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00140

1 public in the sense that, you know,  
2 the public depends on scientific  
3 research being accurate, and so that  
4 was the intent of that sentence.

5 QUESTIONS BY MR. MILLER:

6 Q. "Under the new policy, American  
7 Society of Clinical Oncology will not accept  
8 an abstract or paper describing  
9 company-funded research if the first, last or  
10 corresponding author has been the company's  
11 employee, investor or paid speaker during the  
12 previous two years."

13 That's what you were commenting

14 on the proposed policy of theirs, right, sir?  
15 A. Yeah, the proposal was to  
16 censor contributions that came from people  
17 who had affiliation with industry.



25 Q. Okay. Yet when we get to the

♀  
00141

1 back page, you declare that you have no  
2 conflict of interest in writing this.

3 Do you see that, sir?

4 A. Yes.

5 Q. Why didn't you let the  
6 community that's reading this know that  
7 you're a stockholder in Monsanto?

8 A. This has to do with the  
9 pharmaceutical industry and practices that  
10 relate to scientific drug development and  
11 production. This doesn't have anything to do  
12 with Monsanto.

13 Q. It doesn't have anything to do  
14 with Monsanto pharmacoepidemiology?

15 A. Monsanto doesn't do  
16 pharmacoepidemiology.

17 Q. You write here, sir, that "this  
18 is perceived by many as a particular concern  
19 for the research sponsored by pharmaceutical  
20 companies. In an effort to mitigate biased  
21 reporting, the American Society Journal" --  
22 I'm sorry -- "the American Society of  
23 Clinical Oncology and its affiliated journals  
24 have initiated this new public policy --  
25 publication policy."

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00142

1 So there was an outcry from  
2 industry epidemiologists and industry  
3 generally that this was a censorship and  
4 should not -- this policy should not be  
5 implemented.

6 Is that what I understand you  
7 tell me?

8 MR. COPLE: Objection.  
9 Argumentative. And objection because  
10 10-12 and all the questions are well  
11 beyond the scope of general causation  
12 of non-Hodgkin's lymphoma and  
13 glyphosate.

14 QUESTIONS BY MR. MILLER:

15 Q. You can answer.

16 A. Well, you know, my two  
17 coauthors are academic scientists, and I  
18 don't know the full extent of the comments  
19 that the authors of the draft policy  
20 received, but my understanding was that it  
21 wasn't just from industry people. It was  
22 from people who work for government and

23 people who work in academia. In fact,  
24 pharmacoepidemiology -- the  
25 Pharmacoepidemiology Society has strong

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00143

1 contingents in all three areas.  
2 This document was sent out to  
3 the entire membership of the  
4 Pharmacoepidemiology Society, and it was also  
5 reviewed by the board of directors of the  
6 society, a vast majority who are academic or  
7 government scientists.

8 MR. MILLER: we'll take a  
9 five-minute break and get back to  
10 work. Unless you want lunch now.  
11 It's up to you.

12 THE WITNESS: what time is it?

13 MR. MILLER: About 12 o'clock,  
14 12:08, I guess. It's up to you.

15 MR. HOLLINGSWORTH: we'll talk  
16 it over and let you know.

17 VIDEOGRAPHER: The time is  
18 12:08. This ends Media 2.

19 (Off the record at 12:08 p.m.)

20 VIDEOGRAPHER: We are going  
21 back on the record.

22 The time is 1:02. This is the  
23 beginning of Media 3.

24 QUESTIONS BY MR. MILLER:

25 Q. All right. Last time I want to

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00144

1 have a discussion about the general area of  
2 Monsanto's responses to Dr. Hardell's paper.  
3 Okay? I want to just -- so you know where  
4 I'm going, is all I'm trying to do. Talk  
5 about one more document with that.

6 It would be fair to say that  
7 you recommended that Monsanto work with  
8 Dr. Adami to prepare or create an  
9 epidemiology study in 1999. Is that fair or  
10 no?

11 MR. COPLE: Object to the form  
12 of the question. Lacks foundation.

13 THE WITNESS: Is there a  
14 document that you're referring to that  
15 I can see?

16 QUESTIONS BY MR. MILLER:

17 Q. Sure.

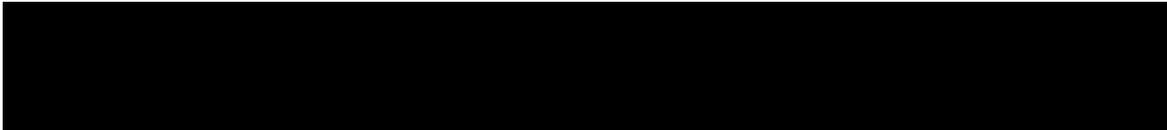
18 But I'm just asking if you  
19 generally remember that.

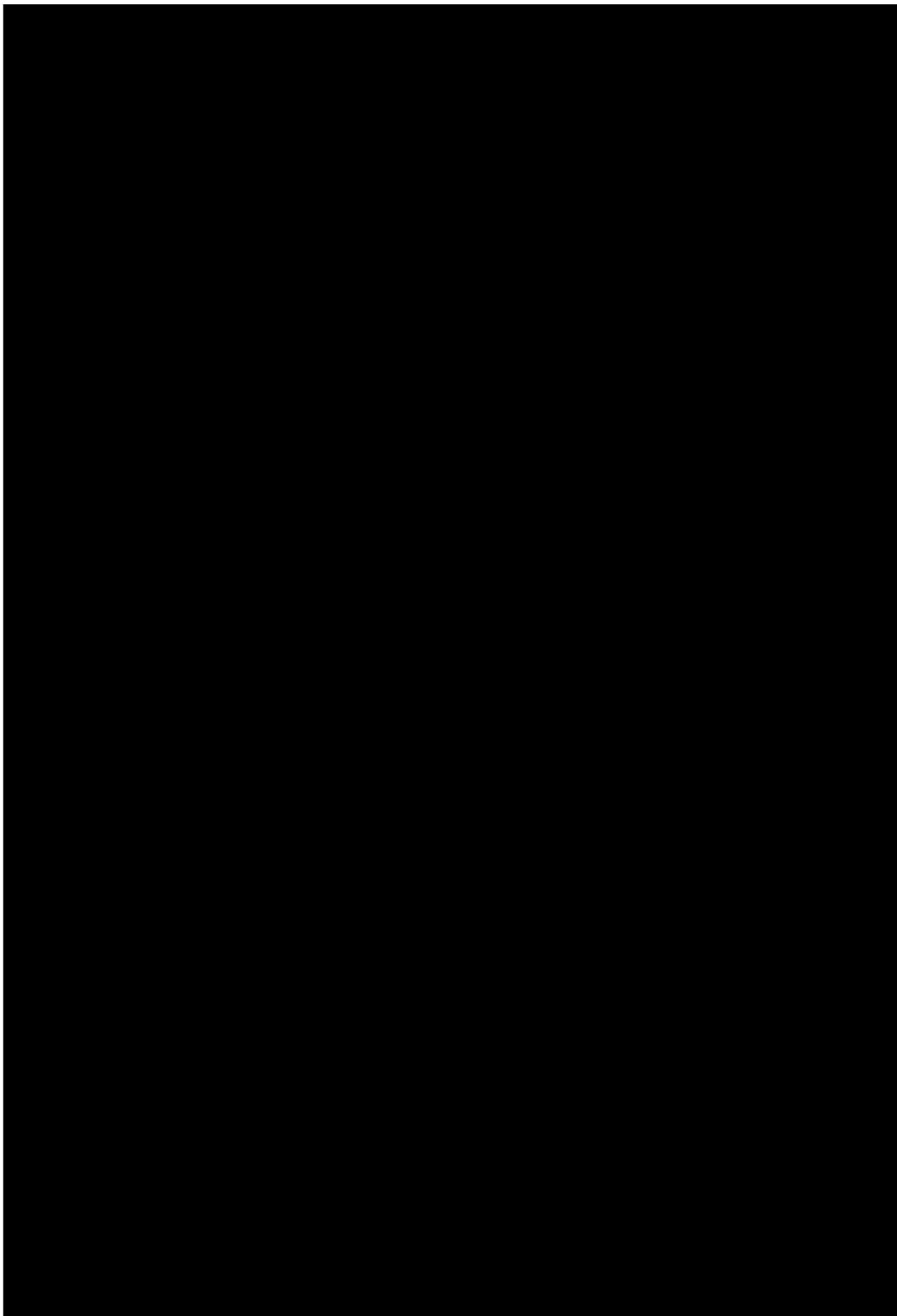
20 MR. COPLE: Same objection.

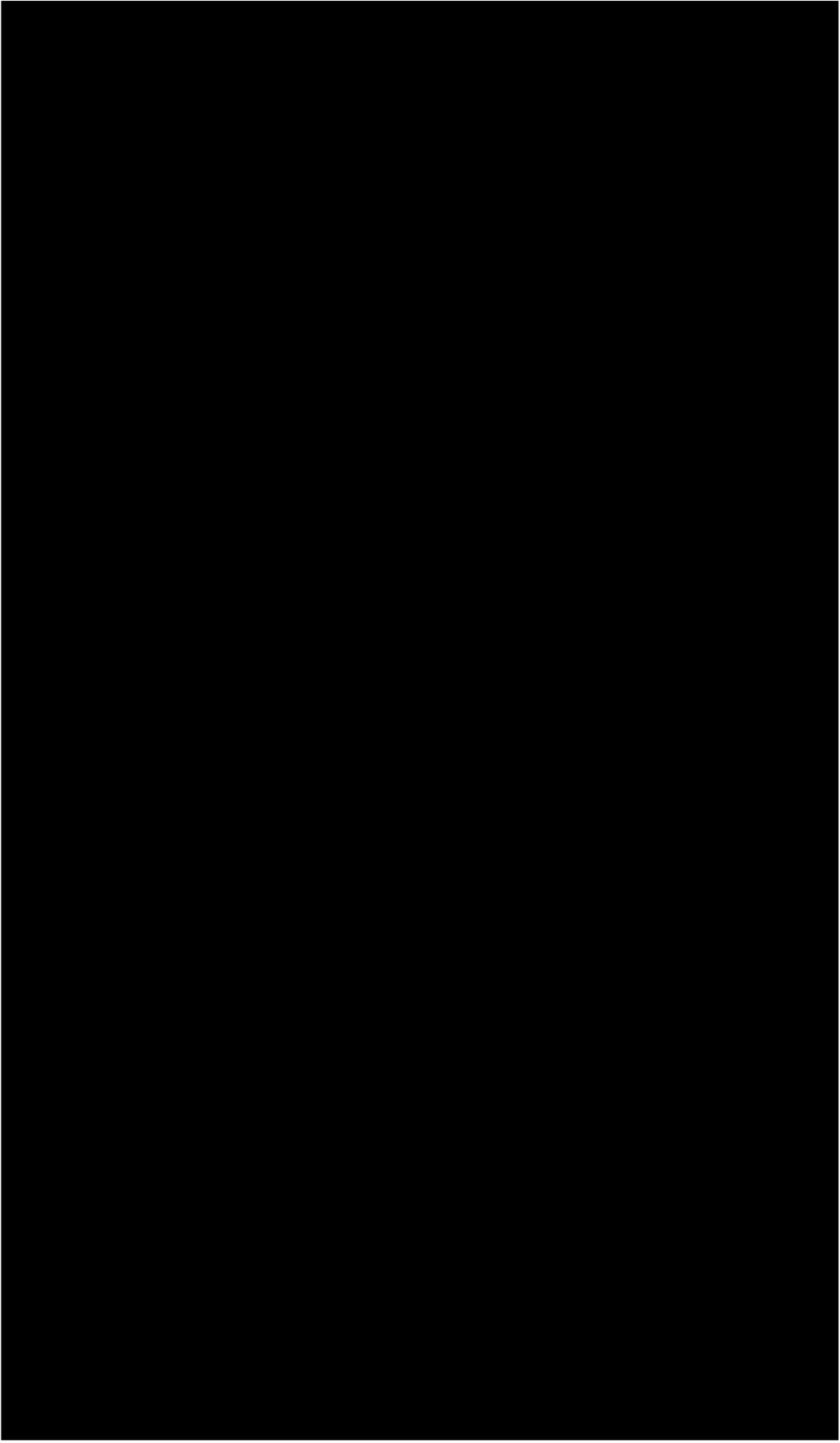
21 THE WITNESS: I know that we  
22 asked Dr. Adami to review the Hardell  
23 study.

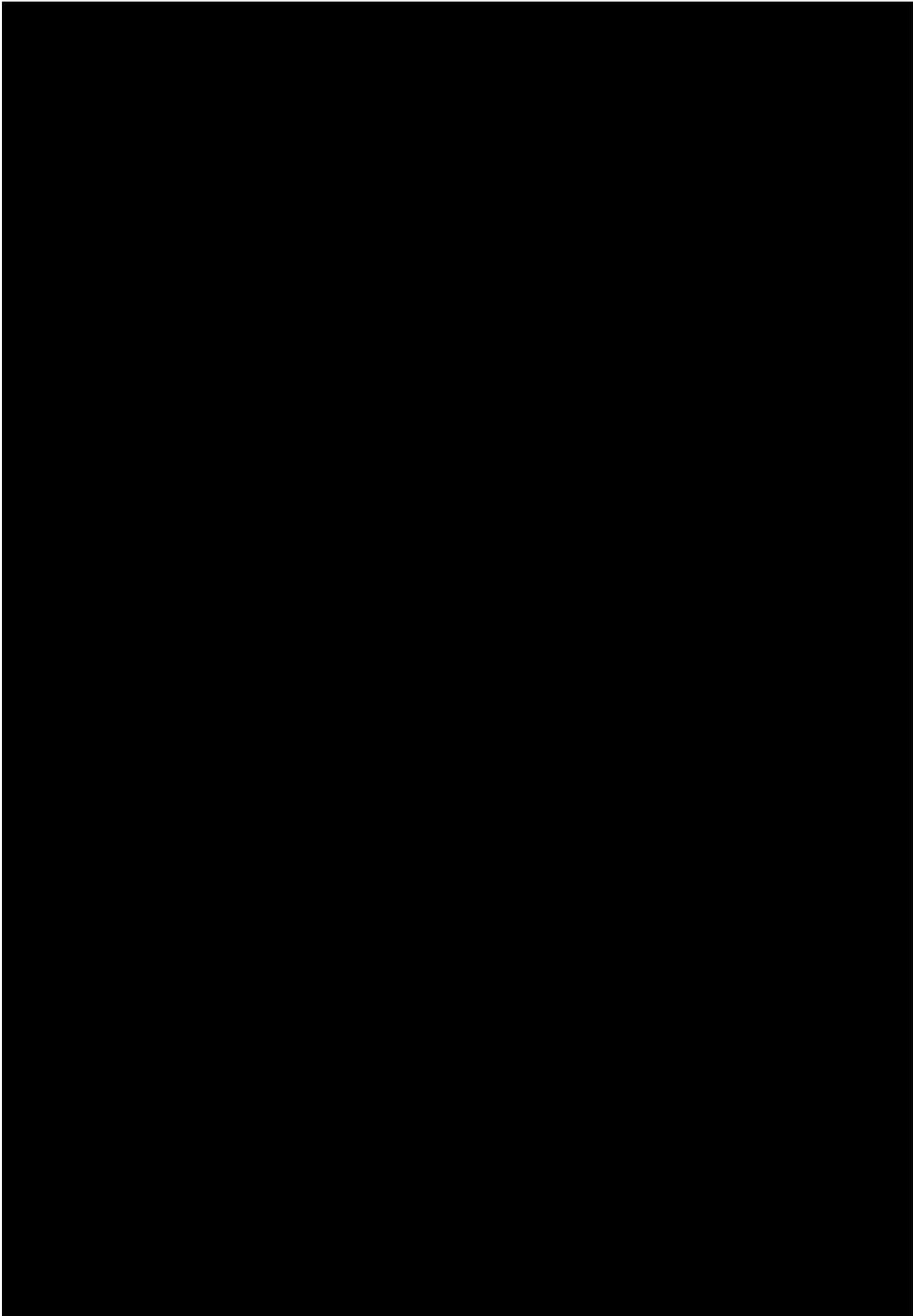
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25 marked for identification.)

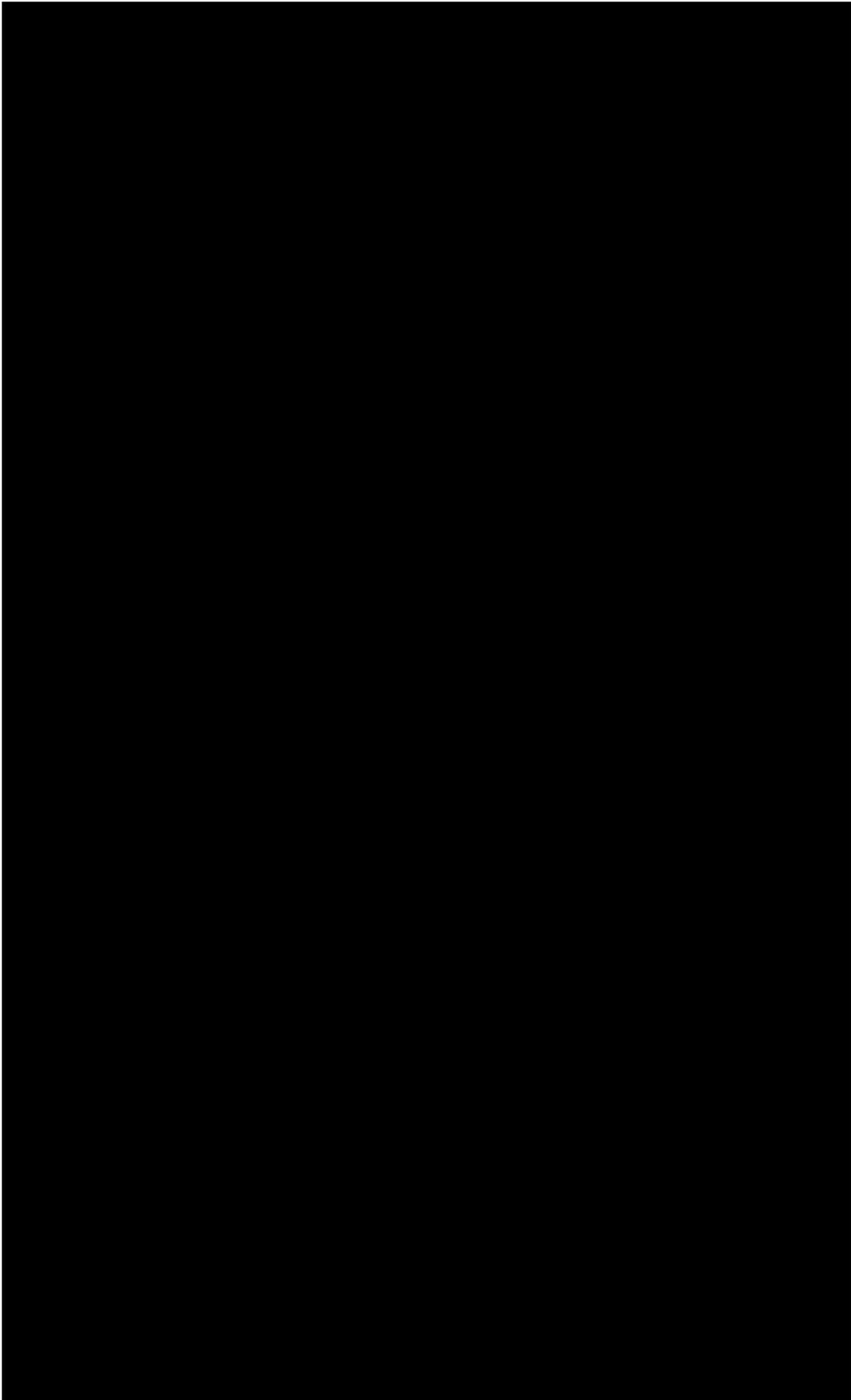
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00145

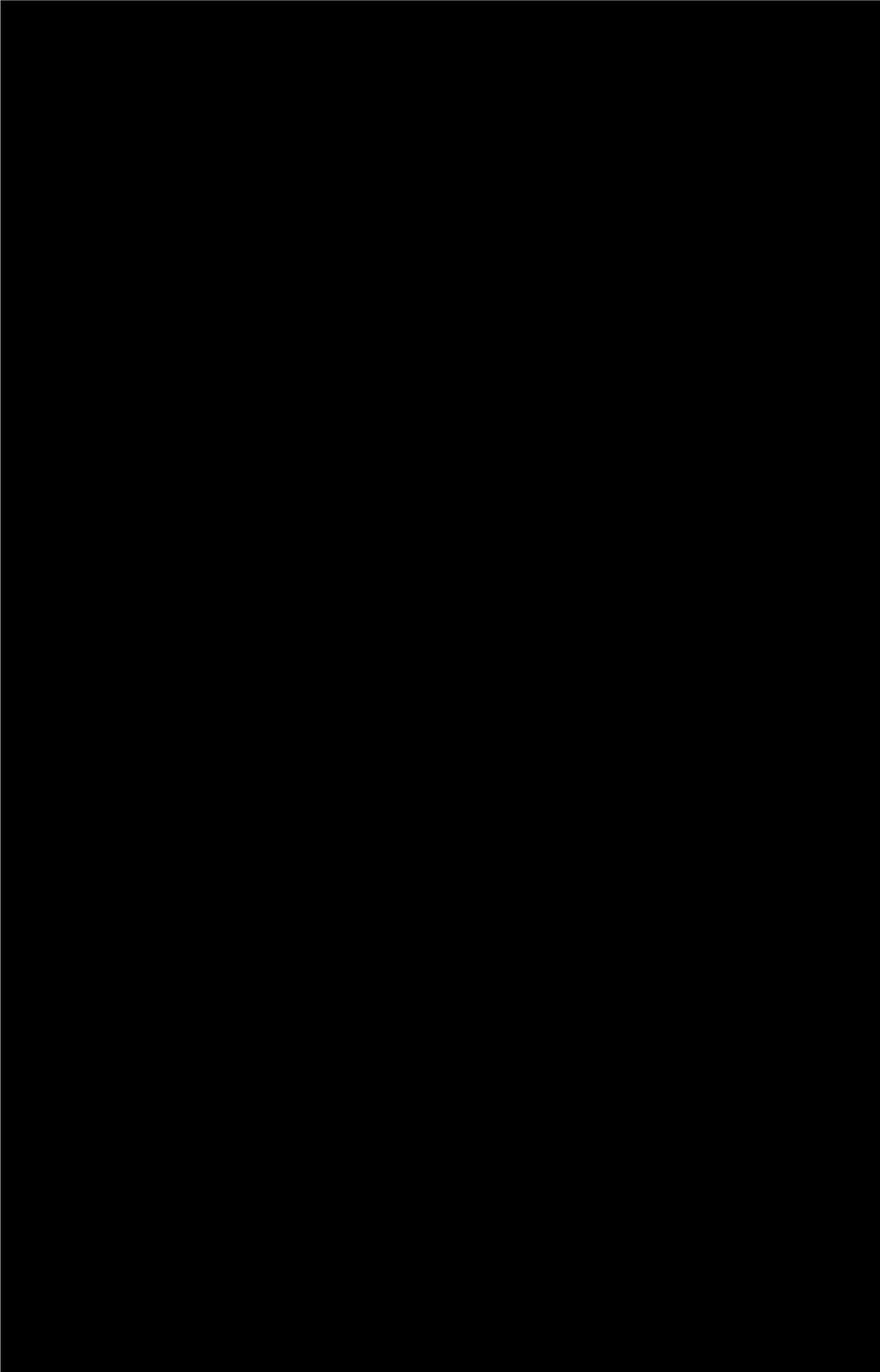


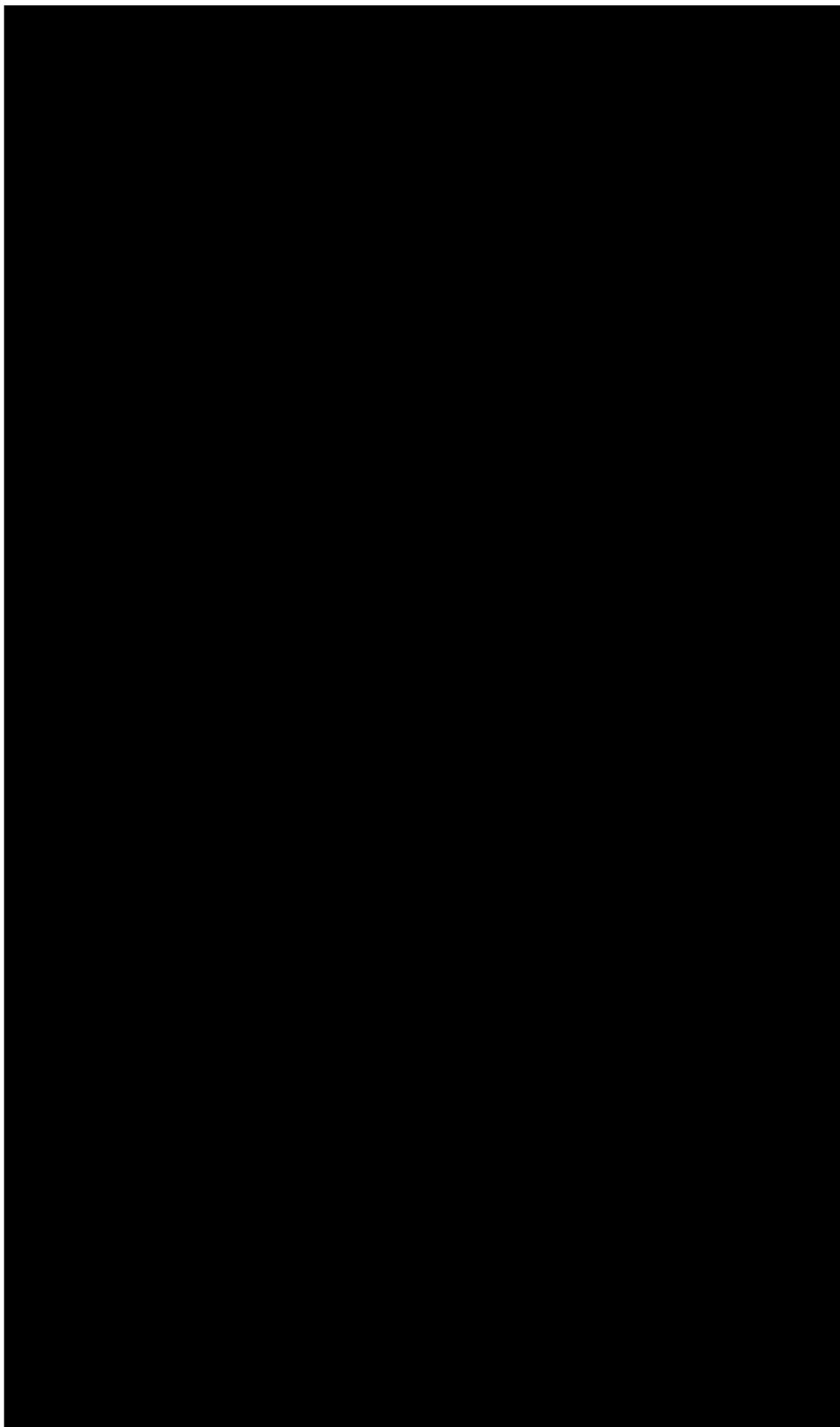


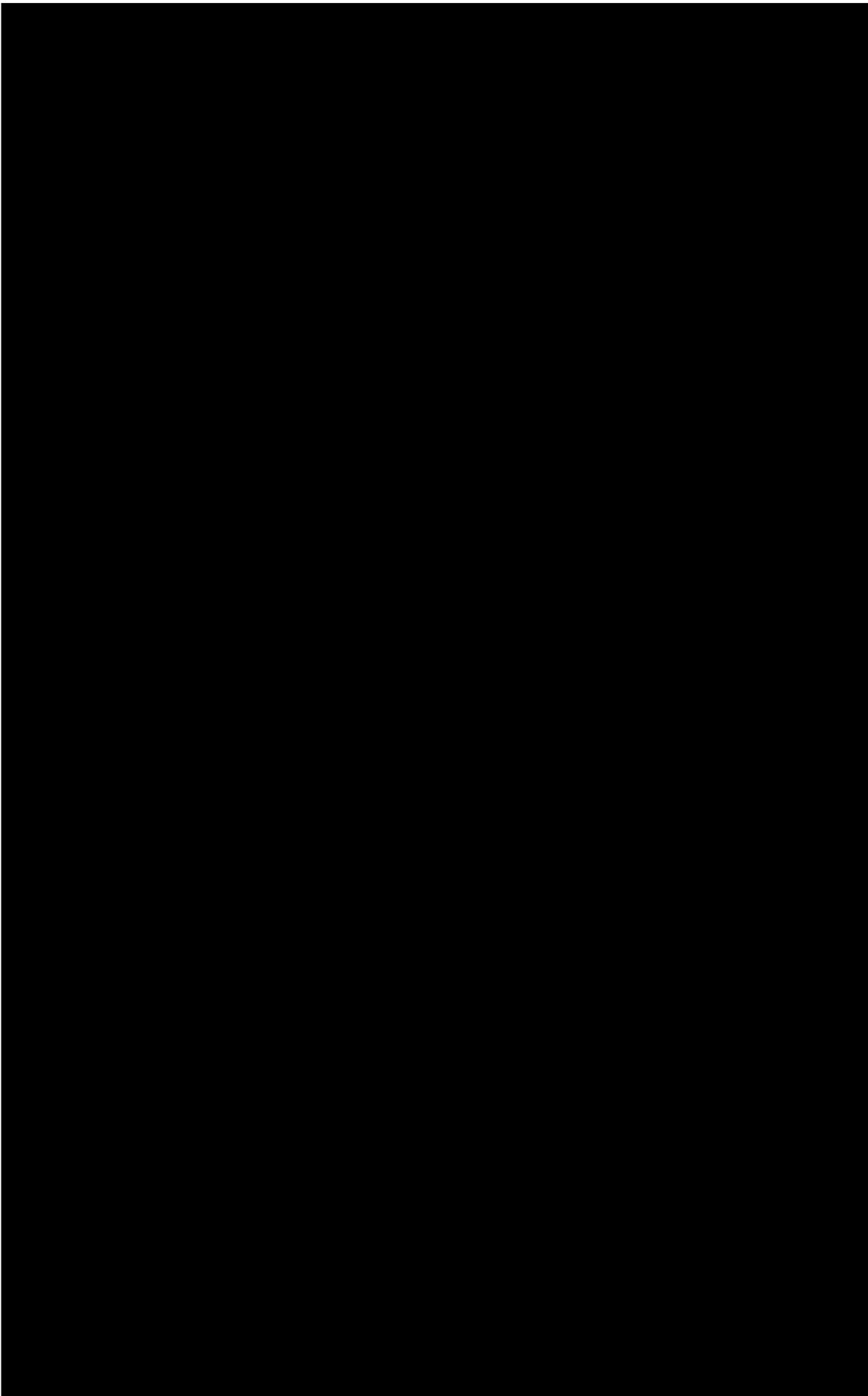


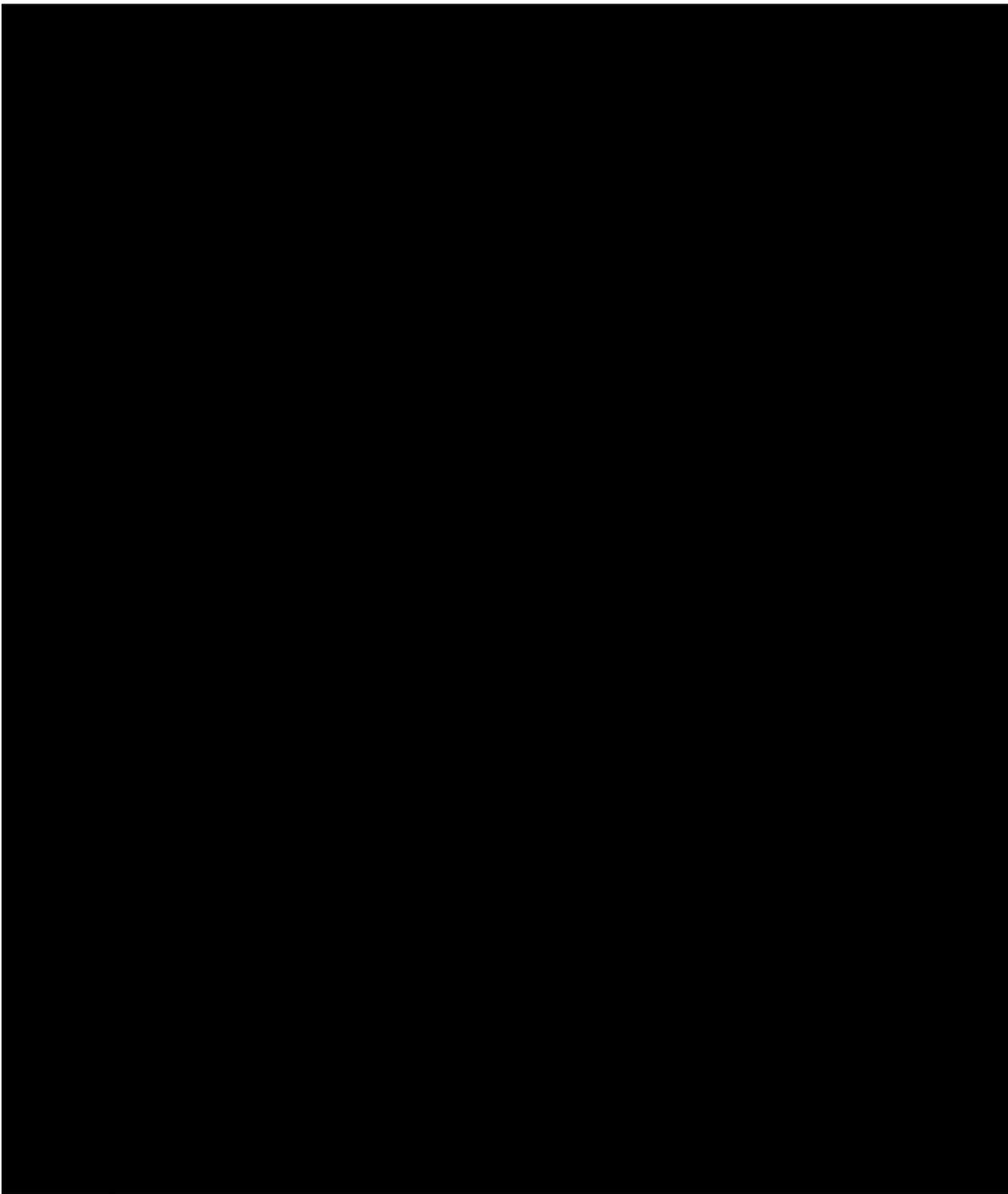












8 QUESTIONS BY MR. MILLER:  
9 Q. That's 1999. Let's cut away to  
10 2015. You know who Dr. Chang is?  
11 A. well, there are a million  
12 Dr. Changs, so...  
13 Q. well, yes, there probably are.  
14 A. And I've worked with a lot of  
15 Dr. Changs, so which one are you talking to?  
16 Q. Sure. I'm talking about the  
17 one that did the meta-analysis on whether  
18 glyphosate and Roundup were associated with  
19 non-Hodgkin's lymphoma. I think there's only  
20 one Dr. Chang that did such --  
21 A. Dr. Ellen Chang --

23 MR. COPLE: Objection. Lacks  
24 foundation.  
25

♀  
00164

1 QUESTIONS BY MR. MILLER:  
2 Q. I'm sorry, sir, go ahead.  
3 A. Okay. That would be Dr. Ellen  
4 Chang --  
5 Q. Yes.  
6 A. And, yes, I know her.  
7 Q. Yes. And in 2015, her  
8 meta-analysis was funded in part by Monsanto  
9 Corporation.

10 You're aware of that?  
11 MR. COPLE: Objection. Lacks  
12 foundation.

13 THE WITNESS: Okay. I think  
14 Monsanto supported her meta-analysis  
15 with Dr. Elizabeth Delzell.

16 QUESTIONS BY MR. MILLER:  
17 Q. Yes, sir.  
18 And that meta-analysis found a  
19 statistically significant increased risk of  
20 non-Hodgkin's lymphoma from her meta-analysis  
21 of 50 percent, right?

22 MR. COPLE: Objection. Lacks  
23 foundation.

24 THE WITNESS: well, would you  
25 be kind enough to give me the article?

♀  
00165

1 I want to make sure, because I think  
2 you're misquoting what they actually  
3 said. So if you give me the article,  
4 I'd answer that question --

5 QUESTIONS BY MR. MILLER:  
6 Q. I'm not misquoting anything  
7 when I'm not quoting. I'm just asking you  
8 whether you remember that. If you don't, you  
9 don't.

10 MR. COPLE: Objection.  
11 Argumentative. Lacks foundation.

12 THE WITNESS: what I remember  
13 about that meta-analysis was that  
14 their conclusion was the evidence  
15 didn't support the proposition that  
16 glyphosate was associated with  
17 non-Hodgkin's lymphoma. It's right in  
18 the abstract. You can read it.

19 QUESTIONS BY MR. MILLER:  
20 Q. I can also read whether or not  
21 they found a statistically significant  
22 increased risk of non-Hodgkin's in the  
23 article, can't I?

24 MR. COPLE: Objection.  
25 Argumentative. Lacks foundation.

♀  
00166

1 THE WITNESS: Any calculation  
2 done in an epidemiology study has to  
3 be considered in the context of both  
4 systematic error and random error.

5 And I think what's obvious from  
6 the Chang and Delzell meta-analysis is  
7 that they say that the available  
8 studies have so many sources of  
9 systematic error, not random error,  
10 that you can't take at face value the  
11 P value and confidence intervals that  
12 result from a weighted average of the  
13 studies of glyphosate and  
14 non-Hodgkin's lymphoma.

15 QUESTIONS BY MR. MILLER:

16 Q. Agricultural Health Study, AHS.  
17 You're familiar with that when I use that  
18 phrase, right?

19 MR. COPLE: Objection. Vague.  
20 THE WITNESS: Yes. So AHS, if  
21 you say that, I'll understand it means  
22 the Agricultural Health Study. That's  
23 the shorthand that I use for it as  
24 well.  
25

♀  
00167

1 QUESTIONS BY MR. MILLER:

2 Q. Okay. You were allowed to give  
3 a presentation to the scientists doing that  
4 study about your Farm Family Exposure Study,  
5 right?

6 MR. COPLE: Objection.  
7 Argumentative. Lacks foundation.

8 THE WITNESS: They invited me  
9 two or three years in a row to come  
10 and speak to their advisory panel  
11 about what we were doing and what we  
12 were finding in the Farm Family  
13 Exposure Study.

14 When we had final results from  
15 the Farm Family Exposure Study, they  
16 invited me to the National Cancer  
17 Institute, to their offices in  
18 Bethesda, because we had made known to  
19 them during the initiation of the  
20 Agricultural Health Study that we  
21 would make known the information that  
22 we gathered in the Farm Family  
23 Exposure Study to help them in  
24 thinking about their approach to  
25 exposure assessment.

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00168

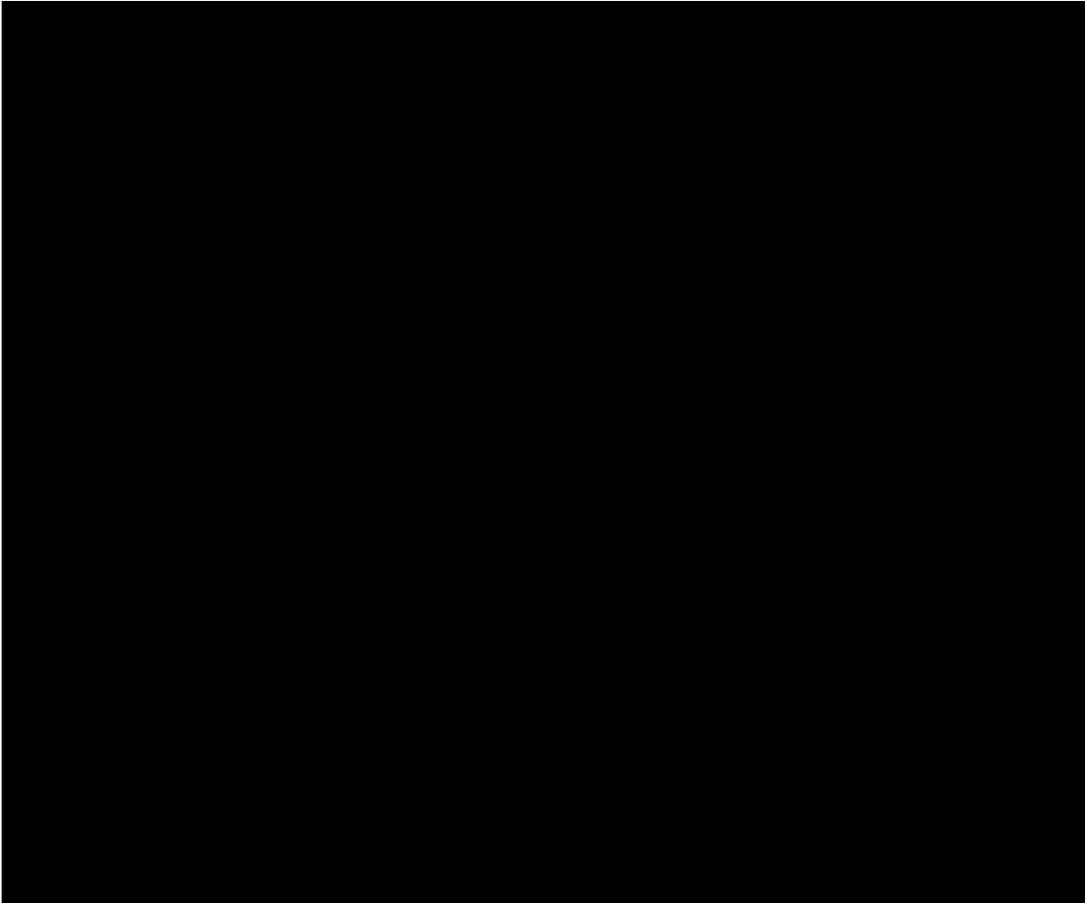
1 So they and their advisory  
2 panel thought enough of, you know, our  
3 forthcomingness in doing the study  
4 that they invited me two or three  
5 years in a row to update them on the  
6 agricultural -- on the Farm Family  
7 Exposure Study.

8 They were doing a similar kind  
9 of study for 2,4-D and chlorpyrifos,  
10 so they were also learning, you know,  
11 a little bit about what we were doing,  
12 and it was helping them in thinking  
13 about what they were doing.

14           And as I said, when our results  
15 were finished and we were -- I think  
16 we were going to begin to send out  
17 articles for publication because I  
18 think we actually shared our results  
19 with them before that. We visited  
20 with them, and I guess we gave a  
21 seminar, maybe two hours, three hours,  
22 where a number of people from not only  
23 the National Cancer Institute but also  
24 EPA and NIHS came to -- those are the  
25 government agencies that are working

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00169

1           on the Farm Family Exposure Study --  
2 to see our results and to, you know,  
3 digest them and see what the  
4 implications might be for their study.



13   QUESTIONS BY MR. MILLER:  
14       Q.     Have you been media-trained?  
15           MR. COPLE: Objection. Vague.  
16           THE WITNESS: A number of years  
17 ago I took some media training.  
18   QUESTIONS BY MR. MILLER:  
19       Q.     while you were at Monsanto?  
20           MR. COPLE: Objection. Outside  
21 the scope of general causation under  
22 the Court's order.

23 THE WITNESS: I took some media  
24 training while I was at Monsanto.  
25

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00171

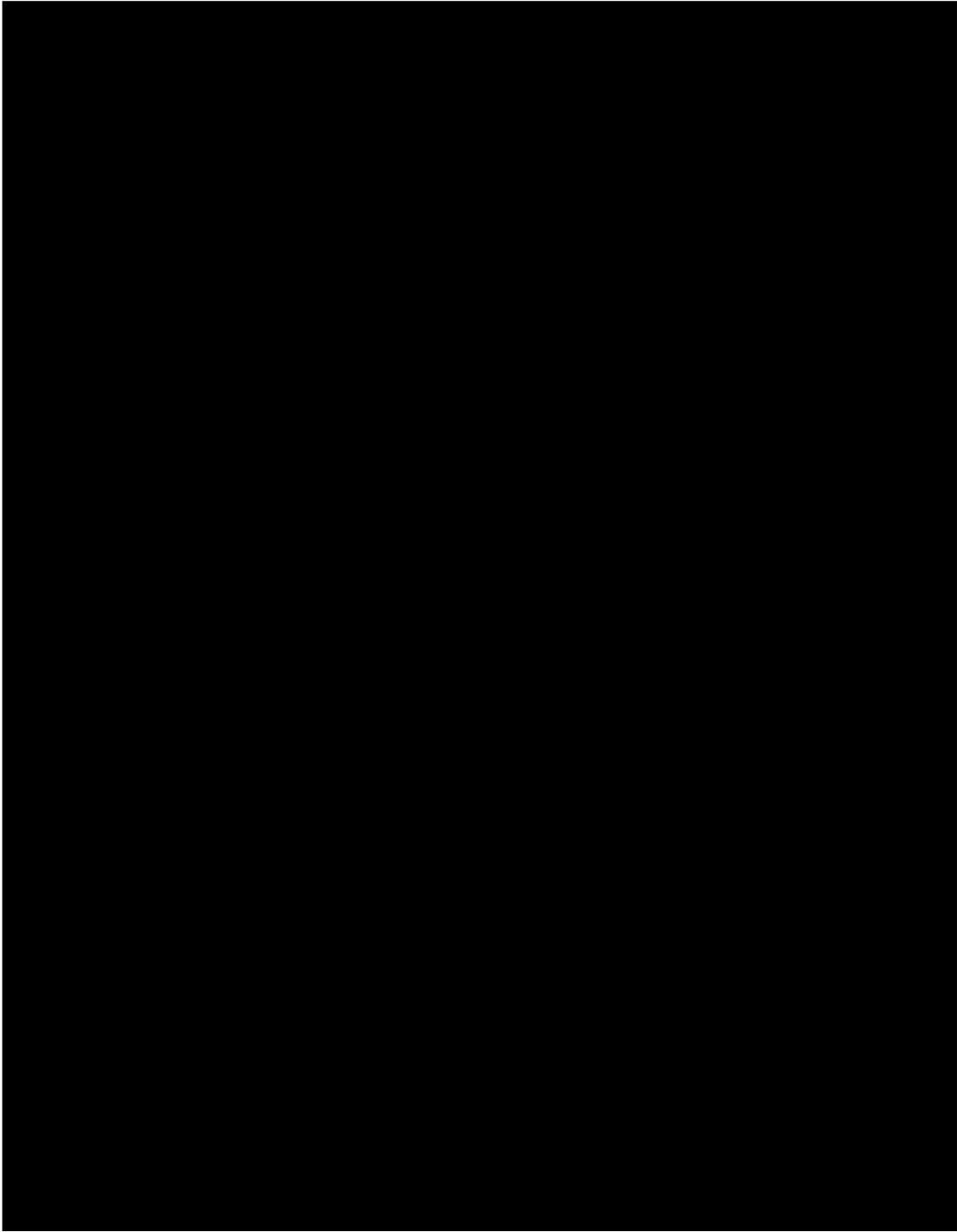
1 QUESTIONS BY MR. MILLER:

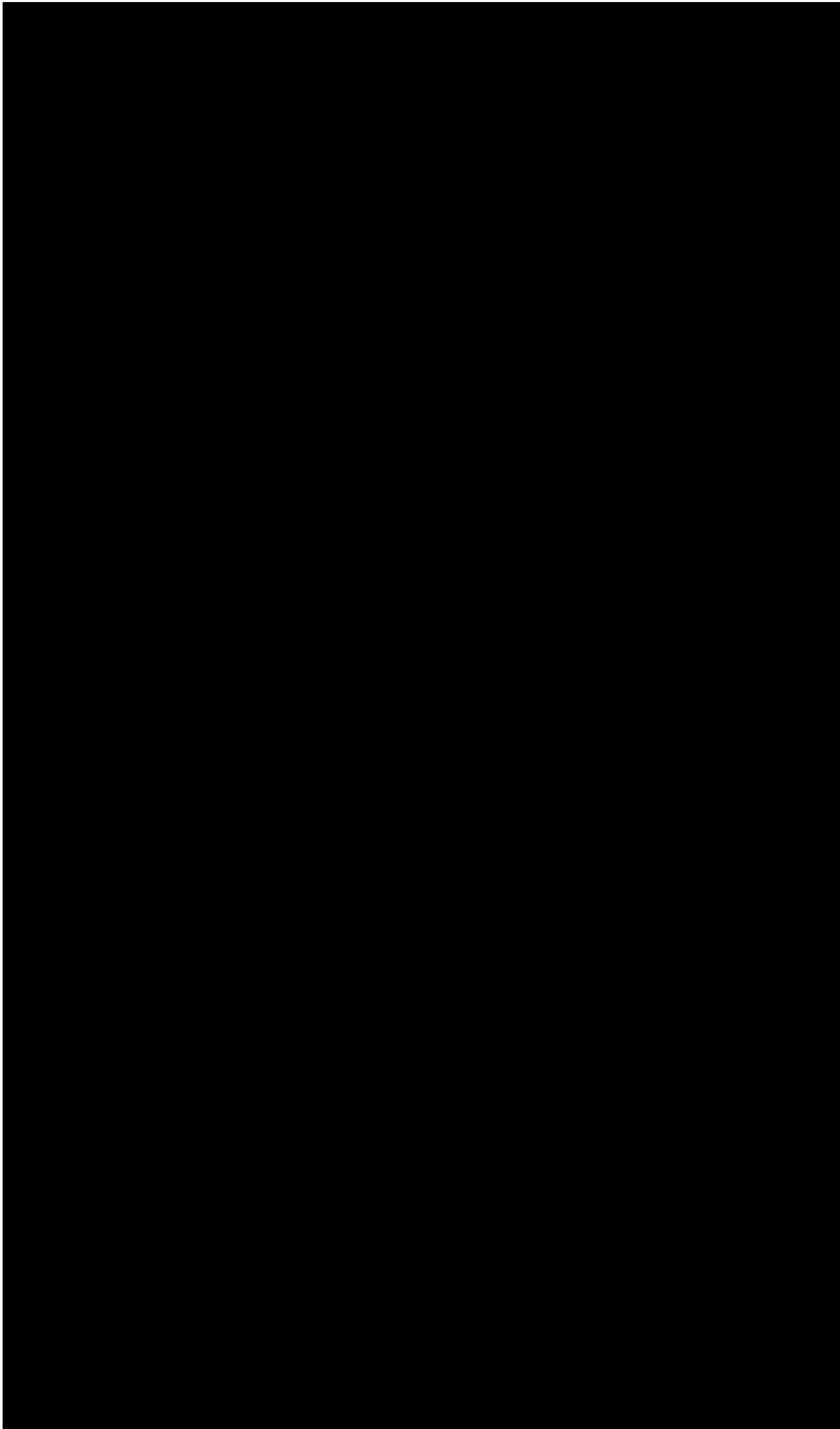
2 Q. Donna Farmer take it with you?

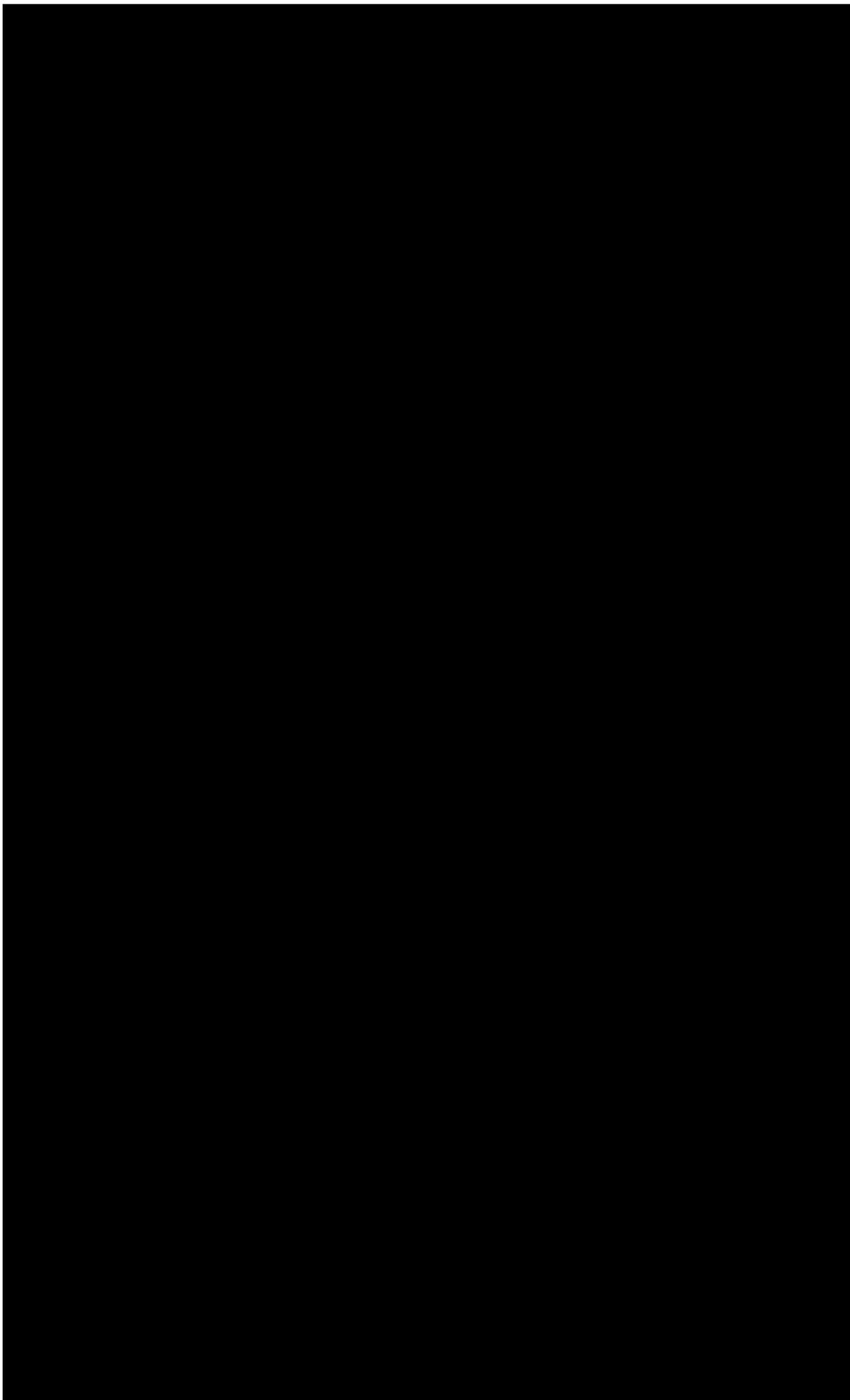
3 A. I don't remember her taking it  
4 with me, per se. And you could ask her  
5 whether she took media training.

6 Q. She told me she has, but I was  
7 wondering if you did it at the same time as  
8 her.

9 A. I don't know. You know, you  
10 fit those in when you can in your schedule  
11 given other commitments. So I don't know if







12 Do you remember generally  
13 speaking, that there was such a paper  
14 published?

15 MR. COPLE: Objection. Vague.

16 THE WITNESS: I know the  
17 McDuffie 2002 study.

18 QUESTIONS BY MR. MILLER:

19 Q. That's what I'm referring to,  
20 sir.

21 And prior to Dr. McDuffie  
22 publishing that paper, you went to Canada to  
23 meet with her, didn't you?

24 A. I went to Canada to attend  
25 the -- I forget the name of the -- I think

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00179

1 it's the International Society for  
2 Environmental Epidemiology -- to present  
3 findings I think from the Farm Family  
4 Exposure Study. And they also asked me if I  
5 would chair one of the scientific sessions at  
6 the meeting, which I agreed to do.

7 would you give me a copy of the  
8 document so I know what I'm -- what you're  
9 asking me about in my meeting with  
10 Dr. McDuffie?

11 Q. I'll be happy to do that. But  
12 before we do that, you recall without the  
13 document that you, in fact, while in Canada,  
14 met with Dr. McDuffie, right?

15 MR. COPLE: Object to the form  
16 of the question.

17 THE WITNESS: Well, you know,  
18 actually I don't remember meeting with  
19 Dr. McDuffie. And, you know, I should  
20 remember, but I don't. And, you know,  
21 at the time I was going to five or six  
22 conferences a year. I often was  
23 chairing sessions.

24 I tried to make it a point  
25 whenever I was at a scientific meeting

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00180

1 and people interested in pesticide  
2 epidemiology, to talk to them about  
3 the Farm Family Exposure Study, to  
4 talk to them about, you know, what we

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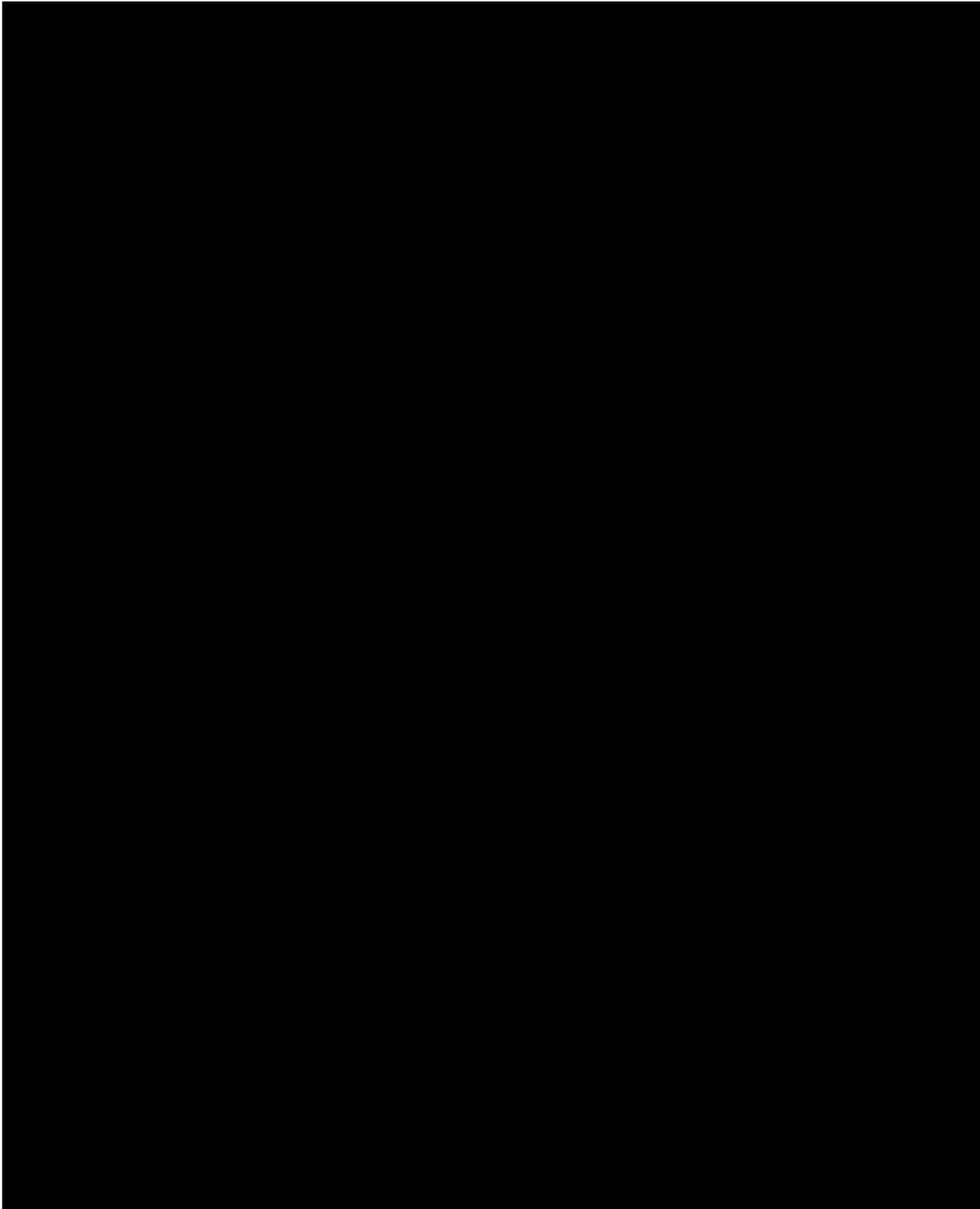
5 know about glyphosate in a collegial  
6 way. And so I assume that's what I  
7 did with Dr. McDuffie, but I don't  
8 remember meeting her.

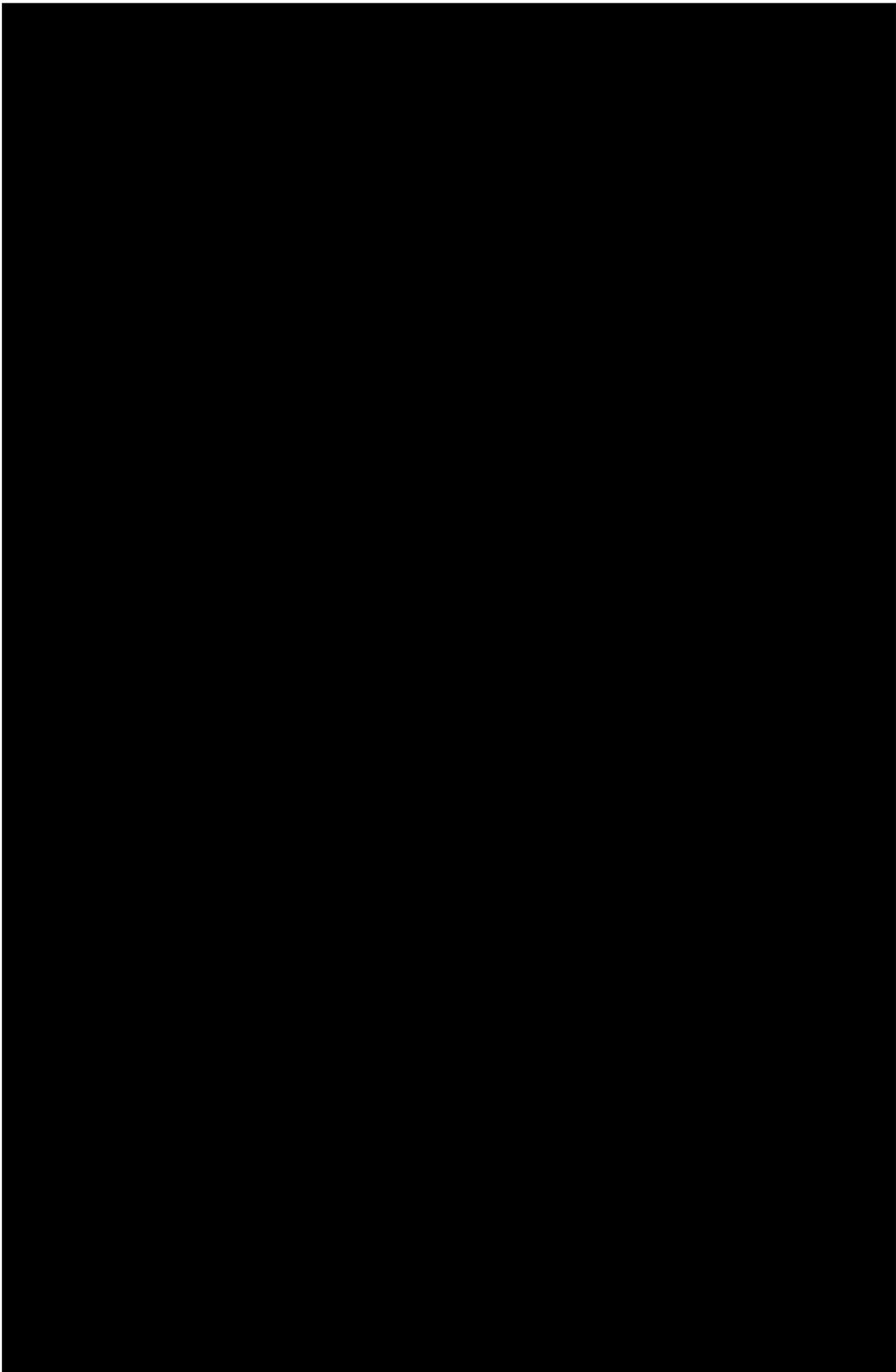
9 (Acquavella Exhibit 10-15  
10 marked for identification.)

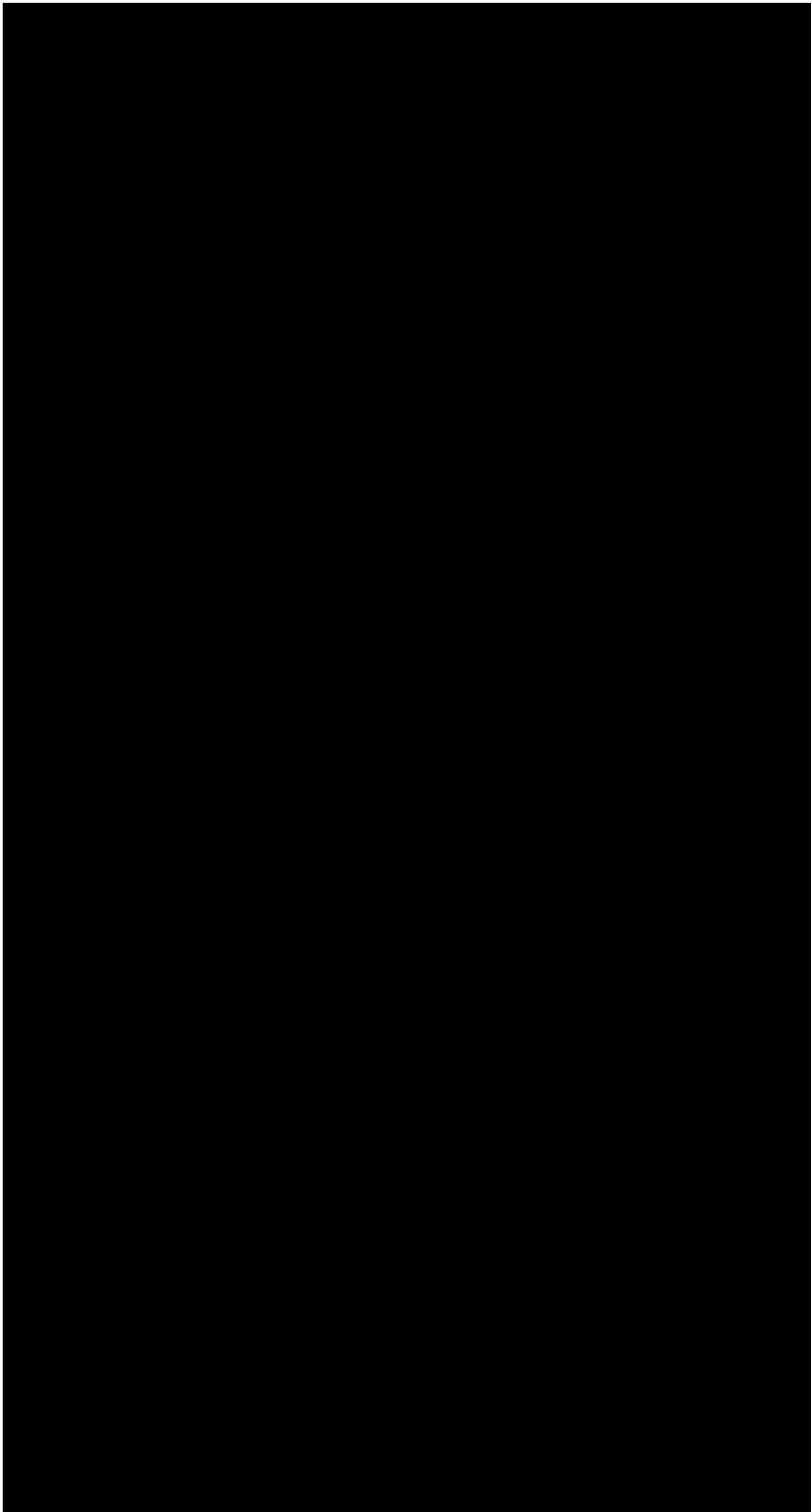
11 QUESTIONS BY MR. MILLER:

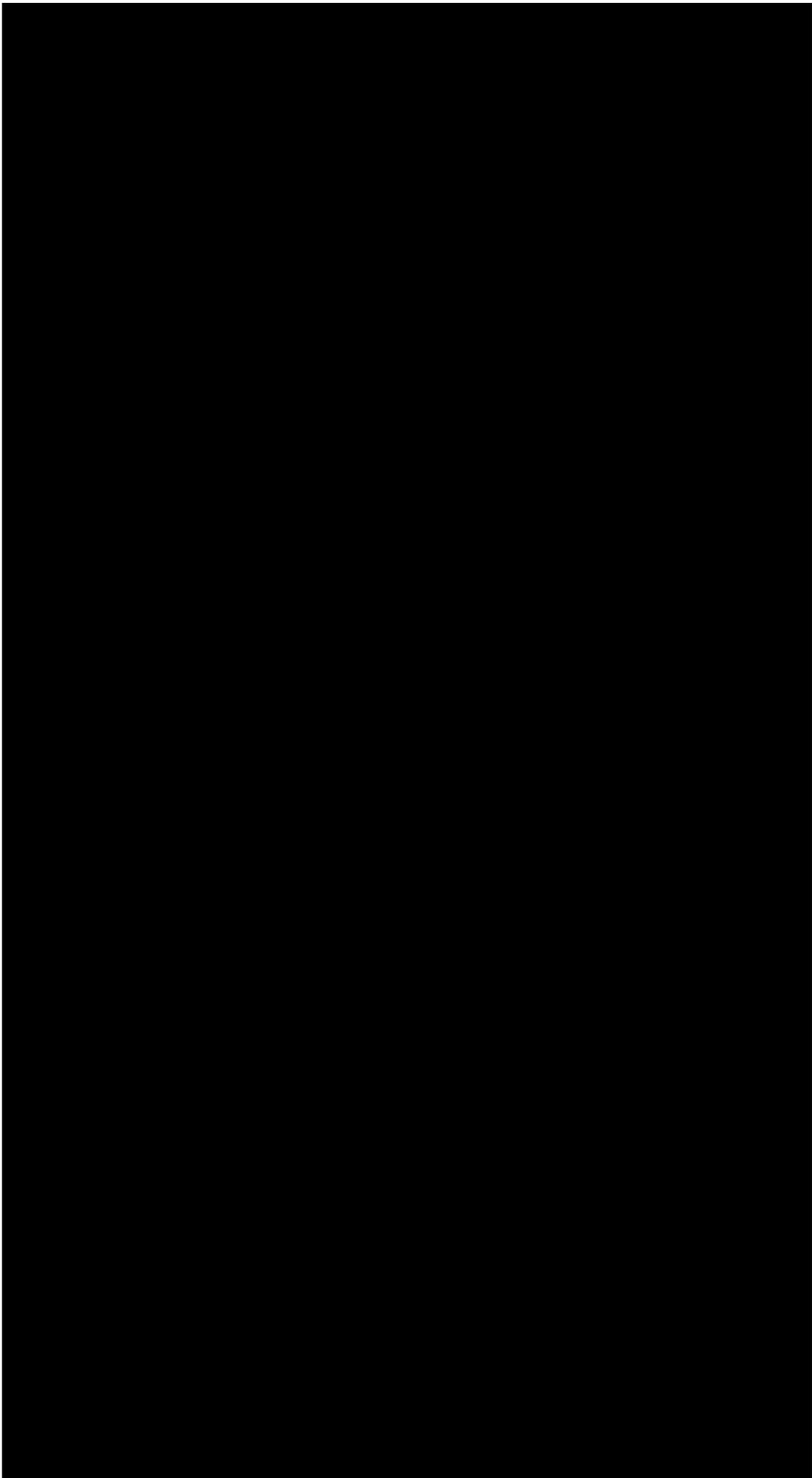
12 Q. well, I'll help refresh your  
13 recollection. We have some documents about  
14 that meeting that we're going to mark as  
15 Exhibit 10-15.

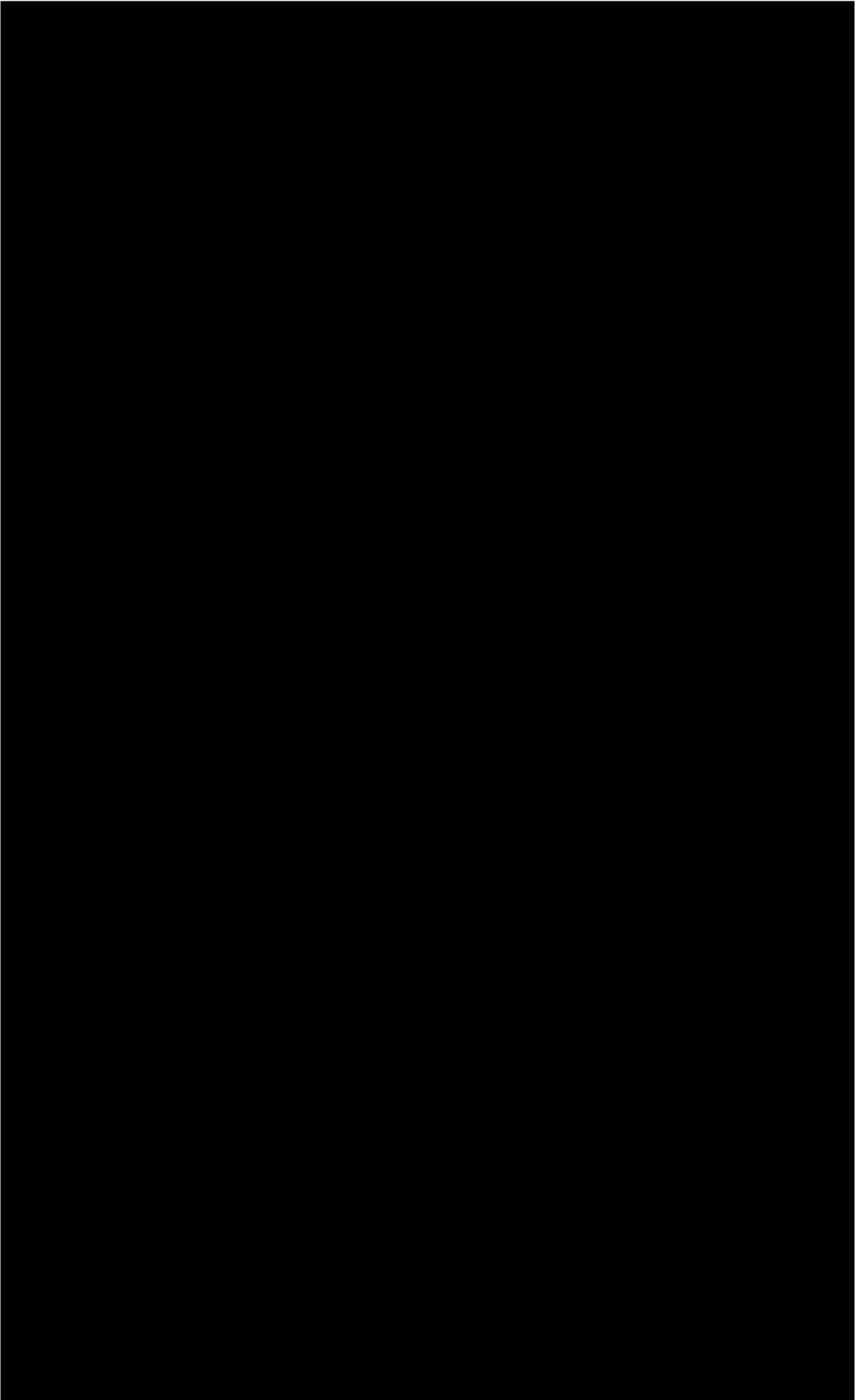
16 A copy for you, sir. A copy  
17 there, Counsel.

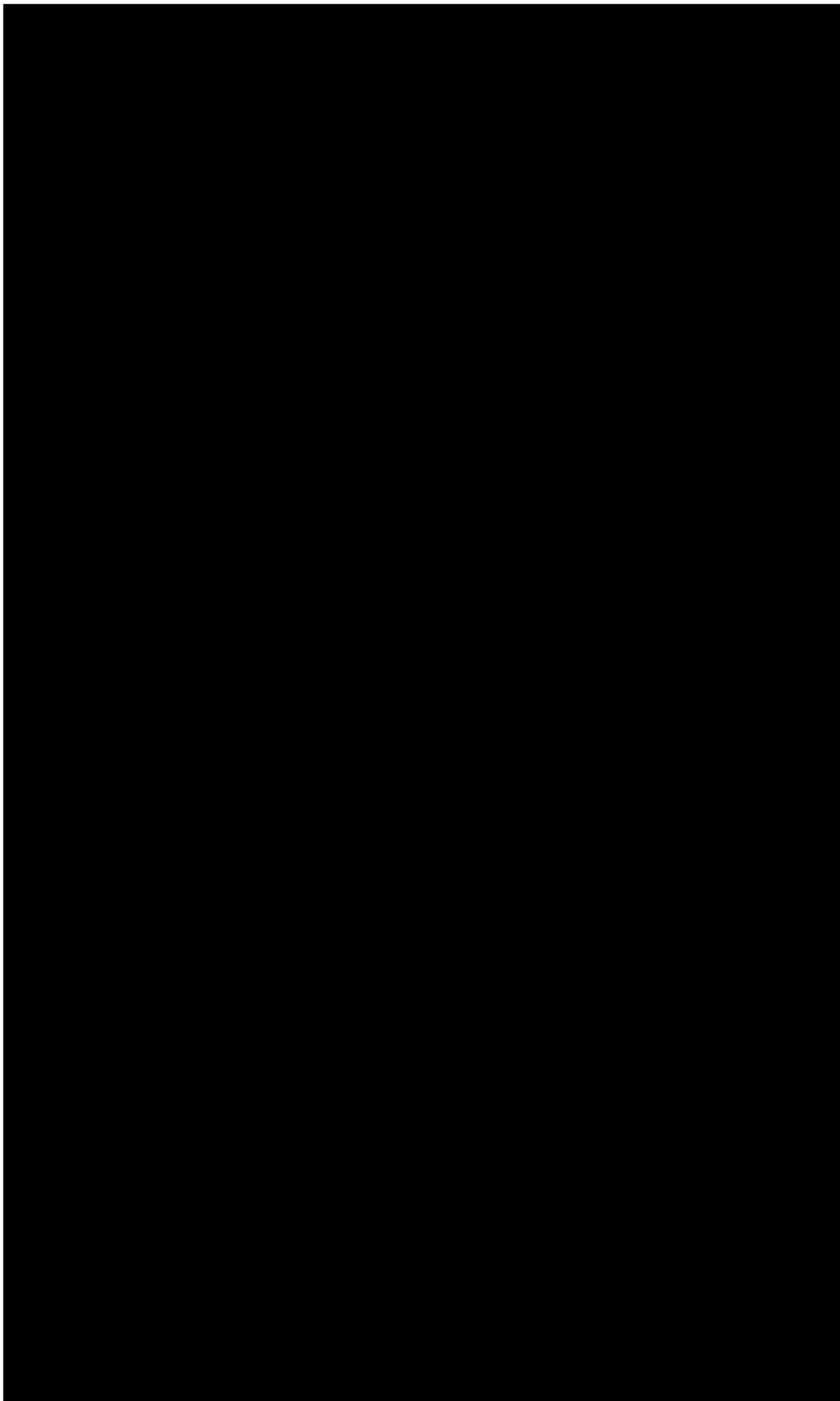


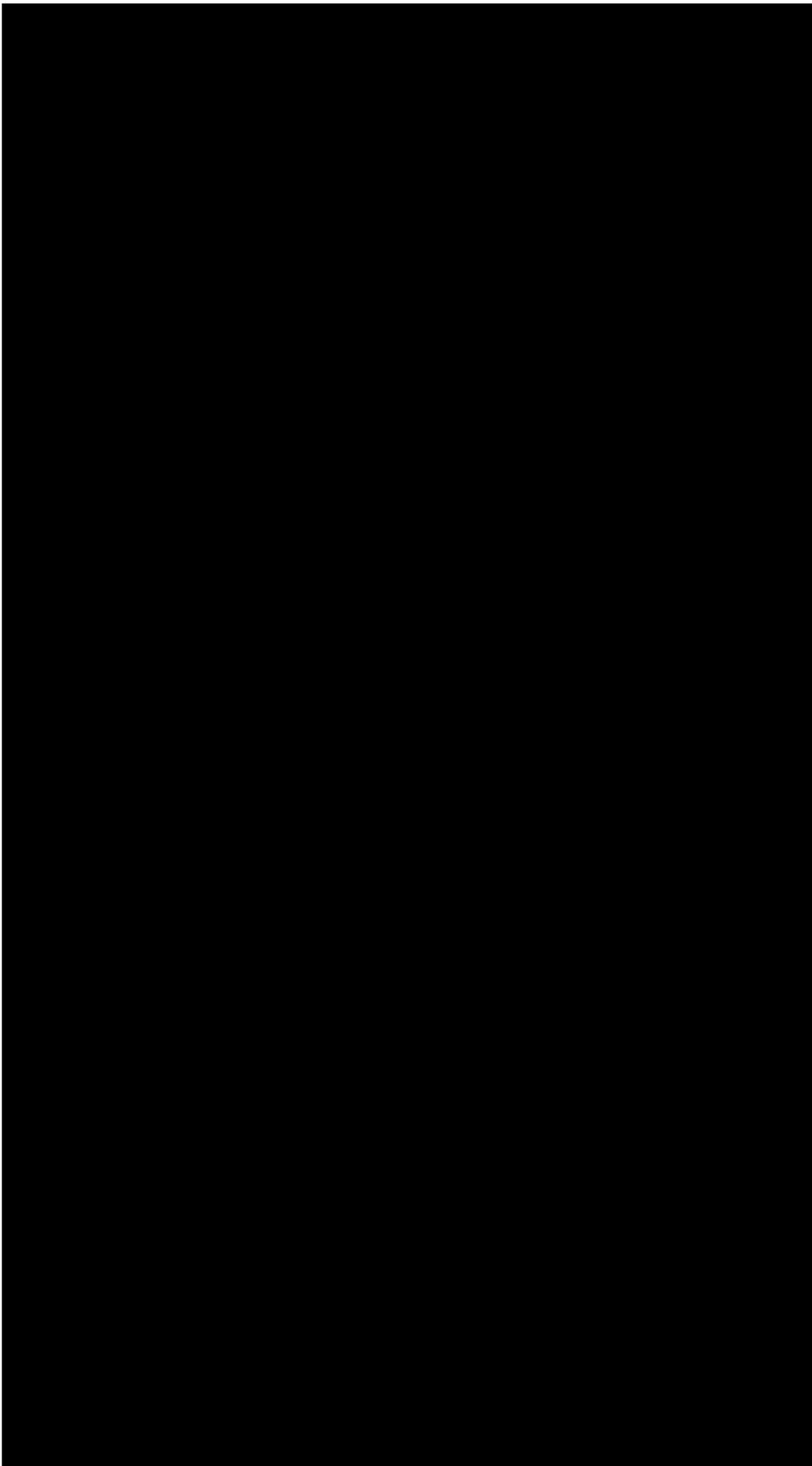










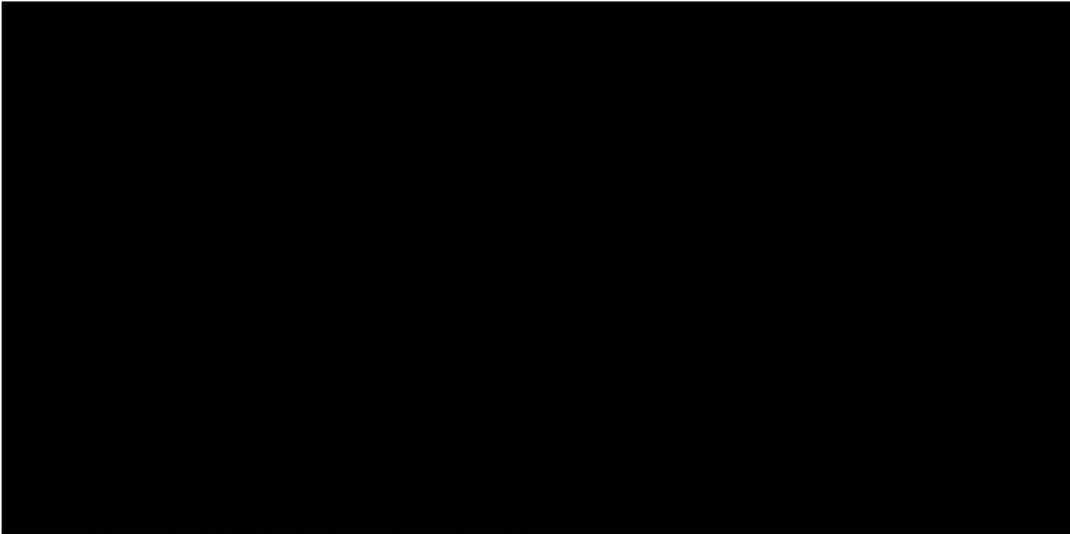


21 MR. MILLER: Sir, we're marking  
22 it as Exhibit 10-16.  
23 Counsel, you have a copy?  
24 (Acquavella Exhibit 10-16  
25 marked for identification.)

♀  
00198

1 MR. COPLE: Has this been  
2 marked as 10-16?  
3 MR. MILLER: It has now. I  
4 would ask you to write that on there.  
5 QUESTIONS BY MR. MILLER:  
6 Q. Okay. Here you go. The  
7 McDuffie 2001 article by McDuffie and others.  
8 And you read this before,  
9 right, sir? More than a few times?  
10 A. I read it before, but I just  
11 want to look it over a bit --  
12 Q. Sure.  
13 A. -- if you're going to ask  
14 questions about it.  
15 Q. I will.  
16 You've read the McDuffie  
17 article before, 2001, right, and just had a  
18 chance to review it right now; is that fair?  
19 A. I've read the article before,  
20 yes.  
21 Q. Yes, sir. Okay.  
22 And one of the coauthors is

23 John R. McLaughlin, right?  
24 A. Yes.



18 QUESTIONS BY MR. MILLER:  
19 Q. And you know John McLaughlin  
20 ultimately served on the IARC committee that  
21 concluded that glyphosate was a probable  
22 human carcinogen for non-Hodgkin's lymphoma?  
23 MR. COPLE: Objection. Lacks  
24 foundation.  
25

♀  
00200

1 QUESTIONS BY MR. MILLER:  
2 Q. Are you aware of that?  
3 MR. COPLE: Objection. Lacks  
4 foundation.  
5 THE WITNESS: Well, John  
6 McLaughlin was a member of the  
7 epidemiology work group, and IARC  
8 concluded after synthesizing all the  
9 opinions of the different work groups  
10 that glyphosate should be classified  
11 as a category 2A, probable human  
12 carcinogen.  
13 But that evaluation is  
14 inconsistent with every other review  
15 that's been done of glyphosate, and of  
16 course it's inconsistent with the  
17 review that our expert panel did.  
18 And for the reasons I explained  
19 to you before about biologic  
20 plausibility, the amount of exposure,  
21 et cetera, it's just a very wrong  
22 conclusion as far as I'm concerned,  
23 consistent with the available science.  
24 QUESTIONS BY MR. MILLER:  
25 Q. I understand that's your

♀  
00201

1 opinion, sir.  
2 Let's go back to the McDuffie,  
3 McLaughlin article and where they state at  
4 the last sentence of the abstract, "we

5 conclude that non-Hodgkin's lymphoma was  
6 associated with specific pesticides after  
7 adjustment for other independent predictors."

8 Did I read that correctly?

9 A. Well, you read that correctly.

10 And, you know, what they're  
11 talking about are all these pesticides that  
12 they've listed here in the abstract. And  
13 really, this is another one of those studies  
14 where they're studying 50 or 60 pesticides,  
15 and virtually every pesticide or, you know,  
16 very many more than you would expect, seems  
17 to be associated with non-Hodgkin's lymphoma.

18 And, you know, I reviewed the  
19 McDuffie study. You know, we reviewed it in  
20 our expert group. And, you know, to us, this  
21 is an indication of some kind of a systematic  
22 error in the study. Could be recall bias.  
23 It could be selection bias.

24 I noted in this study when I  
25 read through it just now that the

♀  
00202

1 participation rate for non-Hodgkin's lymphoma  
2 cases was 67 percent of those contacted, but  
3 it was only 48 percent for controls. So when  
4 you have that kind of a disparity between the  
5 willingness to participate in the study for  
6 cases and the willingness to participate in  
7 the study for controls, you have to seriously  
8 consider that you got selection bias that may  
9 be causing a lot of systematic error in your  
10 study.

11 And so on that count and on the  
12 count that a lot of these associations they  
13 reported didn't have full multivariate  
14 adjustment for personal factors and for, you  
15 know, the other pesticides that were  
16 predictive, I think those are the main points  
17 that, you know, I -- I --

18 Q. You want to bring out?

19 A. No. No. Those are the main  
20 points that our expert panel noted about the  
21 McDuffie study when we reviewed the  
22 literature.

23 Q. And the expert panel you're  
24 referring to is the Intertek panel?

25 A. I'm actually talking

♀  
00203

1 specifically about the five epidemiologists  
2 who did a review: myself, Dr. Marsh,  
3 Dr. Garabrant, Dr. Weed and Dr. Sorahan.

4 Q. All funded by Monsanto?

5 A. Well, Monsanto funded the  
6 Intertek panel review. The experts were  
7 funded to give their independent and best  
8 scientific evaluation of the available  
9 literature.

10 In my experience, that's always  
11 what you ask an expert that you fund to do a  
12 review to do. You want their independent  
13 expert opinion. And that was explicit from

14 the beginning in the formation of the expert  
15 panel, and that's actually the way the expert  
16 panel worked.

17 Q. You're aware Dr. Garabrant  
18 makes over a million dollars a year as a  
19 forensic epidemiologist for industry?

20 MR. COPLE: Objection. Lacks  
21 foundation. Argumentative.

22 THE WITNESS: I don't know  
23 anything about Dr. Garabrant's work  
24 other than his work in occupational  
25 epidemiology. And, you know, he is an

♀  
00204

1 emeritus professor at the University  
2 of Michigan. He's someone who has  
3 trained a lot of epidemiologists and  
4 who is a very -- he's a very incisive  
5 person about epidemiology and  
6 medicine, and he was a real credit to  
7 our epidemiology panel. So we --

8 QUESTIONS BY MR. MILLER:

9 Q. Go ahead, Doctor. Finish.

10 A. This was the first time I  
11 worked with Dr. Garabrant, and he was a  
12 terrific contributor to our panel.

13 Q. I've had the privilege of  
14 meeting him. He's polite. I'm polite.  
15 He's been an expert for the  
16 lead paint industry. You aware of that?

17 A. No.  
18 MR. COPLE: Objection. Lacks  
19 foundation.

20 QUESTIONS BY MR. MILLER:

21 Q. Expert for the manufacturers of  
22 asbestos. Are you aware of that?

23 MR. COPLE: Objection. Lacks  
24 foundation.  
25 THE WITNESS: No.

♀  
00205

1 QUESTIONS BY MR. MILLER:

2 Q. Expert for the tobacco  
3 industry. Are you aware of that?

4 A. No.  
5 MR. COPLE: Objection. Lacks  
6 foundation.

7 QUESTIONS BY MR. MILLER:

8 Q. And an expert that Actos  
9 doesn't cause bladder cancer. Are you aware  
10 of that?

11 MR. COPLE: Objection. Lacks  
12 foundation. All of these questions  
13 about Dr. Garabrant are outside the  
14 scope of general causation for NHL and  
15 glyphosate.

16 THE WITNESS: As I mentioned  
17 before, I don't know about the  
18 different areas where he's consulting.  
19 I just know he had the type of  
20 expertise we wanted on the panel, both  
21 medical and epidemiologic, and that he  
22 was a strong contributor to our

23 panel's work.  
24 QUESTIONS BY MR. MILLER:  
25 Q. Yes, sir.

♀  
00206

1 Let's look at Exhibit 10-16,  
2 Dr. McDuffie and Dr. McLaughlin's  
3 peer-reviewed report of the literature in  
4 2001 about these issues. And I want to ask  
5 you if you agree with this sentence:  
6 "Non-Hodgkin's lymphoma incidence have been  
7 increasing in Canada for the last 25 years,  
8 reflecting a worldwide trend that has not  
9 been explained by improved diagnostic methods  
10 or record-keeping."

11 Do you agree, disagree, or in  
12 the "do not know" camp?

13 A. Yeah, I haven't been following  
14 non-Hodgkin's lymphoma in Canada.

15 Q. Okay. Fair.

16 Let's move on to the tables  
17 that are found on page 1161 of Dr. McDuffie's  
18 report.

19 In this table, Dr. McDuffie and  
20 her colleagues talk about individual  
21 compounds, Table 8 that is, and one of those  
22 individual compounds is glyphosate, right,  
23 sir?

24 A. Yes. Glyphosate is included in  
25 this table.

♀  
00207

1 Q. And what Dr. McDuffie and  
2 others tell us, if you're under two days'  
3 use, there is no statistically significant  
4 increased association between glyphosate and  
5 non-Hodgkin's lymphoma, true?

6 A. They calculated an odds ratio  
7 of 1.0 --

8 Q. Yes, sir.

9 A. -- for two days' or less use  
10 per year.

11 But you know, one of the  
12 comments I've made, you know, previously  
13 about the McDuffie study is that the way she  
14 considered the number of days that somebody  
15 had worked with pesticides was very different  
16 than the two other studies in terms of the  
17 way they looked at the number of days of use.

18 So, for example, in the  
19 Agricultural Health Study, what they did was  
20 they calculated a cumulative years --  
21 cumulative days of use over a lifetime to  
22 discriminate people in terms of if they had a  
23 lot of experience using glyphosate or they  
24 had less experience using glyphosate.

25 So I think the problem with

♀  
00208

1 talking about it in terms of two days per  
2 year is pretty obvious. You know, you don't  
3 know how many years. So, you know, somebody  
4 could be listed in this category of greater

5 than two days a year, but they only did it  
6 for one year. And somebody could be in the  
7 category of up to two days a year, but they  
8 did it for ten years.

9 And so without, you know, some  
10 specificity as to whether these categories  
11 actually classified people by the amount of  
12 glyphosate that they used, you know, I've  
13 always found this table to be uninterpretable  
14 because I don't know necessarily that in her  
15 greater-than-two-days-a-year category she's  
16 actually got people who have more experience  
17 using glyphosate than in her two-days-or-less  
18 category.

19 And, you know, the other thing  
20 about this table is if you look at the  
21 footnote to the table, odds ratios calculated  
22 for strata for the variables age and province  
23 of residence. So the only thing that's  
24 controlled in this analysis is the age and  
25 which province they were from.

♀  
00209

1 You know, in their earlier  
2 analysis of glyphosate, they controlled for  
3 all these medical variables that were  
4 predictive of non-Hodgkin's lymphoma. You  
5 should control for them here. By controlling  
6 for them in their earlier analysis, they've  
7 already demonstrated that they report to  
8 control for.

9 And then, you know, the other  
10 thing that's of interest is, what about all  
11 these other pesticides that are associated  
12 with non-Hodgkin's lymphoma? How can you  
13 interpret a finding for glyphosate without  
14 controlling for all these other factors?

15 So, you know, my sense of  
16 reading the McDuffie paper is that the way  
17 they actually have tried to do their  
18 consideration by amount of exposure is  
19 curious to me. I would like to see some  
20 elaboration of actually how much exposure the  
21 people have over a lifetime in those two  
22 categories.

23 They didn't control for  
24 variables that were already shown to be  
25 important in an earlier analysis, and they

♀  
00210

1 didn't control for other pesticides that  
2 might be correlated with glyphosate use and  
3 could be producing a spurious association.

4 MR. MILLER: Move to strike as  
5 nonresponsive.

6 MR. COPLE: Object. The  
7 witness' answer will stand.

8 QUESTIONS BY MR. MILLER:

9 Q. Let's look at the table from  
10 this peer-reviewed independent scientist from  
11 cancer epidemiology, Dr. McDuffie.

12 And she tells us for  
13 glyphosate, greater than 2-day use, there is

14 a statistically significant increased odds  
15 ratio of 2.12.

16 Did I read that correctly?

17 A. Her table for the greater than  
18 two days per year, for an unknown number of  
19 years, has an odds ratio of 2.12. That's not  
20 controlled for medical variables that were  
21 considered to be important, and that's not  
22 controlled for the other pesticides that are  
23 associated with non-Hodgkin's lymphoma in  
24 this analysis.

25 So, you know, a limitation of

♀  
00211

1 considering whether this finding is  
2 statistically significant or not is the fact  
3 that you can't do an appropriate statistical  
4 significance calculation when you have such  
5 incredible recall bias, you haven't  
6 controlled for medical factors that have  
7 already been found to be related to  
8 non-Hodgkin's lymphoma and could be  
9 associated with glyphosate use, and you  
10 haven't controlled for the pesticides that  
11 were even more strongly associated with  
12 non-Hodgkin's lymphoma than glyphosate was in  
13 this analysis.

14 So that's the way, you know, I  
15 think about the evidence that's been  
16 presented here.

17 Q. Well, one thing's for sure.  
18 Dr. McDuffie did a study on the relationship  
19 between glyphosate and non-Hodgkin's  
20 lymphoma, and Monsanto never did, right?

21 MR. COPLE: Objection.  
22 Argumentative.

23 THE WITNESS: Well, you can see  
24 from the setup of the study that this  
25 is a study about all pesticides that

♀  
00212

1 are used a certain amount in Canada.  
2 Glyphosate was included among them  
3 because it's one of the pesticides  
4 used in Canada.

5 But this was not a study of  
6 glyphosate alone. This was not a  
7 study that incorporated any of the  
8 details that we know about glyphosate  
9 exposure, and it was not a study, as I  
10 pointed out, that did what we'd  
11 consider to be an acceptable  
12 statistical analysis.

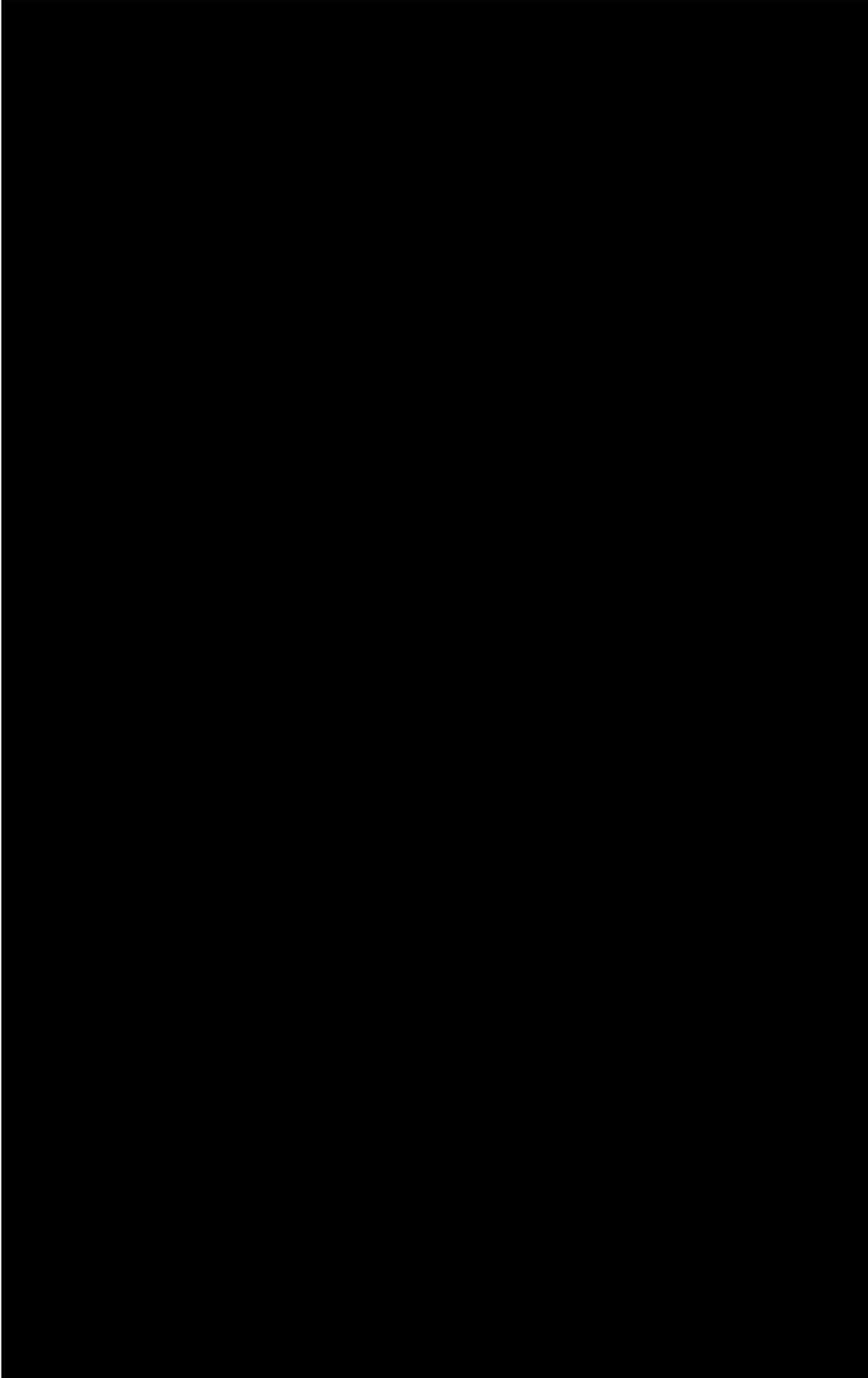
13 There was also this huge  
14 disparity in participation between  
15 cases and controls. And the whole  
16 basis for calculating an odds ratio is  
17 that the controls are representative  
18 of the population that gave rise to  
19 the cases. If you have such a large  
20 difference in participation, you have  
21 to really question whether the control  
22 group gave an adequate representation

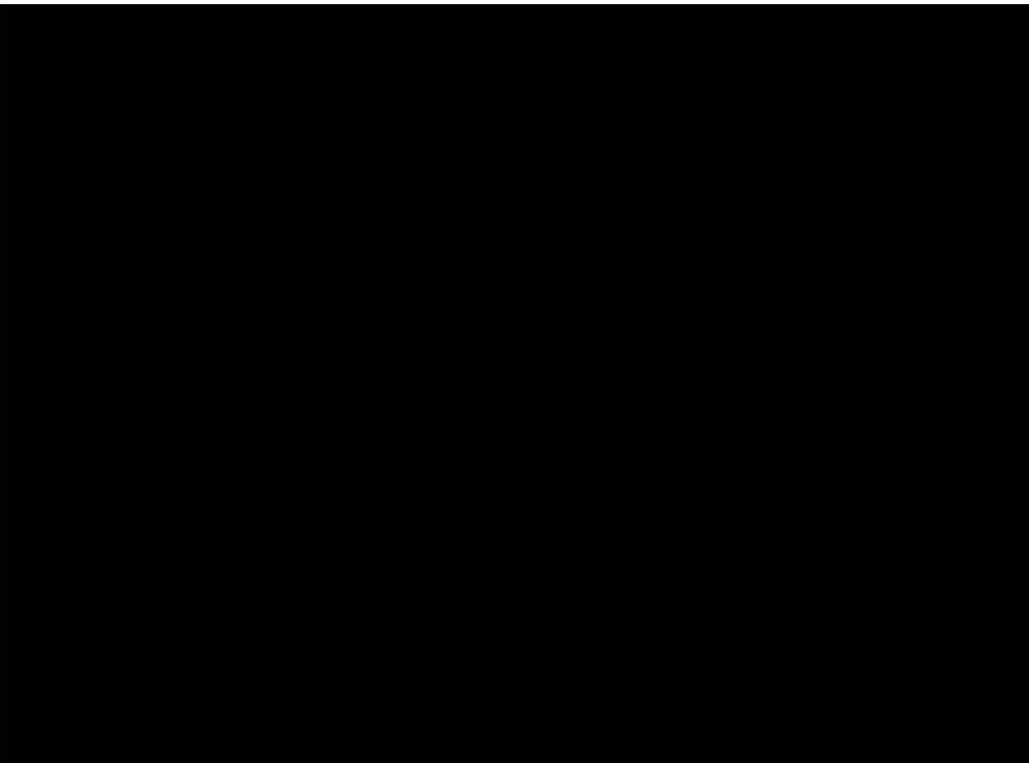
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23  
24  
25

of the frequency of glyphosate use in  
the population that gave rise to the  
cases.

♀  
00213





4 Q. And you raised another good  
 5 point, the way science works. There's  
 6 oftentimes more than one cause of a  
 7 condition, isn't there?

8 A. Well, cause has a certain  
 9 meaning to epidemiologists. And I think if  
 10 you ask, you know, experts in causal  
 11 inference, they would say, you know, every  
 12 outcome, heart disease, for example, has  
 13 multiple causes. So somebody has high  
 14 cholesterol, but not everybody with high  
 15 cholesterol gets a heart attack. So, you  
 16 know, it's high cholesterol and maybe it's, I  
 17 don't know, high blood pressure or things  
 18 like that.

19 So there's this idea in causal  
 20 inference that -- you can almost think of a  
 21 pie, and everybody who develops a disease has  
 22 this constellation of causal factors. So  
 23 it's not just one -- it's not a one-to-one  
 24 relationship like you implied. Causal  
 25 inference is much more complicated than that.

♀  
 00217

1 Q. Yes, sir.  
 2 I'm going to show you now what  
 3 we've marked as Exhibit 10-17 --  
 4 MR. COPLER: Before you proceed,  
 5 Counsel, we've been going an hour and  
 6 40 minutes.

7 MR. MILLER: Sure.  
 8 VIDEOGRAPHER: The time is  
 9 2:38. This ends Media 3.

10 (Off the record at 2:38 p.m.)  
 11 VIDEOGRAPHER: We're going back  
 12 on record. Time is 2:59. This begins  
 13 Media 4.

14 MR. MILLER: Before we go back,  
15 Counsel, is it Monsanto's position  
16 that plaintiff is limited to seven  
17 hours for our portion of  
18 Dr. Acquavella's deposition?

19 MR. COPLE: Yes, direct and  
20 redirect.

21 MR. MILLER: Not sure if we  
22 agree with you, but we'll try to work  
23 with you for now.

24 MR. COPLE: Well, I will tell  
25 you -- and that's fine. You reserve

♀  
00218

1 whatever rights you want, Mike, but  
2 that's the way it was handled with  
3 plaintiff's counsel in this litigation  
4 previously, direct and redirect.

5 If I'm misrepresenting that,  
6 I'll stand corrected, but my  
7 recollection is that's how we've  
8 handled it so far.

9 MR. MILLER: I think you're  
10 right, that it has been how we've  
11 handled other witnesses. And I could  
12 be wrong, but I thought we had sent  
13 some correspondence that we felt we're  
14 entitled to two days with  
15 Dr. Acquavella.

16 And I don't want to make  
17 100 percent representation because I'm  
18 not young anymore, and I forget some  
19 stuff.

20 MR. COPLE: If you can explain  
21 what you mean by "entitled to two  
22 days," because I'm not sure I even  
23 understand what that means.

24 MR. MILLER: 14 hours.

25 MR. COPLE: Oh. No, I'm not

♀  
00219

1 aware of anything like that.

2 MR. MILLER: Yes, sir. All  
3 right.

4 Well, with that intention or  
5 conflict, I will try to limit myself  
6 and then seek court intervention if I  
7 feel I need more later. So we're  
8 going to work with you for now, but  
9 feel like we're being limited in some  
10 way.

11 But let's get back to work,  
12 okay? Fair enough. Okay?

13 QUESTIONS BY MR. MILLER:

14 Q. All right. Doctor, we already  
15 talked about Hardell '99, and we just talked  
16 about McDuffie 2001. I want to move on, if I  
17 can, and talk about some other studies from  
18 independent scientists that have been in the  
19 peer-reviewed literature on the issues of  
20 non-Hodgkin's lymphoma and glyphosate.

21 Okay? Just want to move. Want  
22 to discuss other studies.

23 A. Okay.  
24 Q. All right. And I think doing  
25 that chronologically, I'd like to move to a

♀  
00220

1 Hardell study in 2002.  
2 Are you familiar with that one,  
3 sir?

4 A. I'm familiar with Hardell 2002,  
5 but I want to see the document.  
6 (Acquavella Exhibit 10-18  
7 marked for identification.)

8 QUESTIONS BY MR. MILLER:

9 Q. I understand, and I intend to  
10 provide you a copy.

11 Okay. Exhibit 10-18 is  
12 Dr. Hardell and others' study from 2002 on  
13 these issues.

14 Here's a copy for you, sir.  
15 Review it as you feel necessary. I just have  
16 a few questions about it.

17 A. Okay.  
18 MR. MILLER: Okay. And before  
19 I ask my next question, I just want to  
20 put on the record, Counsel, the record  
21 will reflect how much time  
22 Dr. Acquavella spent reviewing  
23 Exhibit 10-18. And I certainly don't  
24 want to rush anyone who feels they  
25 need to use that much time, but given

♀  
00221

1 that the doctor just wrote a review  
2 article that included the Hardell  
3 article just six months ago, I believe  
4 the amount of time should not, in  
5 fairness, be counted against me. I  
6 think it's either an abundance of  
7 caution or stalling, but in either  
8 event, it's not something that the  
9 plaintiff should be prejudiced by.

10 MR. COPLE: We object to the  
11 characterization, and we oppose your  
12 position.

13 MR. MILLER: All right. We  
14 both stated our -- let's get back to  
15 work.

16 QUESTIONS BY MR. MILLER:

17 Q. Exhibit 10-18 is the Hardell  
18 paper, right, of 2002?

19 A. Yeah, Hardell, Eriksson and  
20 Nordstrom.

21 Q. Yes, sir.  
22 (Acquavella Exhibit 10-19  
23 marked for identification.)

24 QUESTIONS BY MR. MILLER:

25 Q. And Exhibit 10-19 is an article

♀  
00222

1 that you and Dr. Garabrant and others wrote  
2 six months ago that included a review of this  
3 paper.

4 Are you familiar with that

5 article that you wrote?

6 I'm going to give you a copy.  
7 I'm not going to ask you about the contents  
8 right this second, but I'm going to ask you  
9 if you, in fact, are the author of this.

10 You're the first author, aren't  
11 you?

12 A. Yes, I'm familiar with the  
13 article, and I was one of five contributing  
14 authors and the lead author of the article.

15 Q. I'm sorry, I didn't hear you.

16 A. I said, I was one of five  
17 contributing authors and the lead author of  
18 the article.

19 Q. So you certainly are familiar  
20 with the Hardell 2002. You just wrote a  
21 critical review about that article and other  
22 articles about six months ago, fair?

23 A. I'm familiar with Hardell 2002,  
24 yes.

25 Q. Okay. we'll get back to your

♀  
00223

1 article in a minute.

2 Let's look at Dr. Hardell's  
3 2002 article. It was on this issue of  
4 pesticides, including glyphosate and the  
5 association with non-Hodgkin's lymphoma.

6 Those are the issues raised in  
7 his 2002 article, right?

8 A. In this study he pooled the  
9 results from two studies that had been done  
10 previously. One was non-Hodgkin's lymphoma,  
11 which apparently included some hairy cell  
12 leukemia cases, and the other one was a  
13 smaller, just a hairy cell leukemia study.

14 Q. And it was published in a  
15 peer-reviewed journal called Leukemia &  
16 Lymphoma, right?

17 A. It was published in Leukemia &  
18 Lymphoma, yes.

19 Q. It's a peer-reviewed journal?

20 A. I don't know the journal, but  
21 it came up on literature searches, so I  
22 assume it's a peer-reviewed journal that's  
23 indexed.

24 Q. These independent scientists in  
25 this peer-reviewed article state in their

♀  
00224

1 abstract, quote, "Among herbicides,  
2 significant associations were found for  
3 glyphosate, odds ratio 3.04."

4 Statistically significant,  
5 right, sir?

6 A. That's what they say in the  
7 abstract. However, if you look at Table 7 on  
8 page 1047, you can see that that's the result  
9 of a univariate analysis, where you don't  
10 consider any of the other factors that are  
11 correlated with both glyphosate and with  
12 non-Hodgkin's lymphoma or hairy cell  
13 leukemia. If you consider those factors, the

14 odds ratio is reduced to 1.85.  
15 And all of the things that, you  
16 know, I said about the Hardell study in 1999,  
17 since this is basically another analysis of  
18 that study with an additional hundred or so  
19 hairy cell leukemia patients and their cases  
20 would apply, 40 percent of the information  
21 came from relatives. There was no control  
22 for confounding.  
23 The number of cases included in  
24 this overall study for glyphosate who have  
25 any exposure to glyphosate is still less than

♀  
00225

1 10, which, you know, a lot of epidemiologists  
2 would look at that and say, you can't do a  
3 reliable analysis for that case.

4 It's pretty clear to me, and it  
5 was clear to our expert panel when we  
6 reviewed this publication. If you look at,  
7 for example, at Table 1, virtually every  
8 pesticide is associated with non-Hodgkin's  
9 lymphoma, and a large number of them are  
10 associated statistically significantly. I  
11 just go down and count them.

12 So this usually means that  
13 there's some kind of systematic error in a  
14 study. I mentioned before recall bias, which  
15 is very important, lack of control for  
16 confounding, et cetera.

17 So these are two studies that  
18 have been published previously. Our panel  
19 reviewed them as one study because it was the  
20 most recent iteration of the results for the  
21 two previous studies. And so the commentary  
22 that's in our article and the commentary I  
23 just gave you reflects the most recent  
24 iteration for these patients.

25 Q. The most recent iteration by

♀  
00226

1 Monsanto-paid experts when they reviewed this  
2 report?

3 MR. COPLE: Objection.  
4 Argumentative.

5 THE WITNESS: No.

6 MR. COPLE: Objection.  
7 Argumentative.

8 QUESTIONS BY MR. MILLER:

9 Q. You can answer.

10 A. Okay. No, I meant the most  
11 recent iteration by Hardell and his  
12 colleagues.

13 Q. What Dr. Hardell says is that  
14 there was a significant association found  
15 with glyphosate, an odds ratio of 3.04.

16 Did I read that correctly?

17 A. Well, you read that correctly.  
18 You know, what would be a more  
19 complete reporting of what was found for  
20 glyphosate would be what I just pointed out  
21 to you in Table 7. In the univariate  
22 analysis, the odds ratio for glyphosate was

23 3.04. But when we did a multivariate  
24 analysis and controlled for other pesticides  
25 and other factors that are important to

♀  
00227

1 control for, the odds ratio was 1.85.  
2 Because, you know, the basic  
3 practice of epidemiologists is to take the  
4 most adjusted result because it's an  
5 indication of considering all the factors in  
6 the study that are important to be  
7 considered.

8 So I think that's incomplete  
9 reporting on Dr. Hardell's part, and it gives  
10 a misrepresentation, actually, of the  
11 glyphosate finding, I think.

12 Q. I'm sure you do.  
13 what these scientists say on  
14 page 1047 is, the results in multivariate  
15 analysis must be interpreted with caution  
16 since exposures to different types of  
17 pesticides correlate.

18 whereas you want to seize on  
19 the multivariate analysis, these peer-review  
20 scientists say it must be interpreted with  
21 caution.

22 Do you see that?  
23 MR. COPLE: Objection.  
24 Argumentative.  
25 THE WITNESS: I'll say a couple

♀  
00228

1 of things about that. The first is,  
2 you know, if two pesticides are  
3 correlated, and one of them's a risk  
4 factor for non-Hodgkin's lymphoma and  
5 the other isn't, the fact that they're  
6 correlated is actually the cause of  
7 the confounding. So I'm not quite  
8 sure what he means there.

9 And he could have provided, for  
10 example, correlation matrix of how the  
11 different pesticides were correlated  
12 so that people who look at this would  
13 know what he's talking about. I don't  
14 think he's talking about glyphosate,  
15 but you just can't know because he's  
16 doing that.

17 The other thing that, you know,  
18 would have been really helpful in this  
19 study -- and, you know, I encouraged  
20 the regulatory agencies to inquire  
21 when I've discussed these studies with  
22 them -- is, we don't have any idea how  
23 many days of exposure these eight  
24 people have for other than a few of  
25 the pesticides.

♀  
00229

1 You know, they report -- they  
2 report days of exposure. In Table 2  
3 they report days of exposure for  
4 phenoxyacetic acids. They report days

5 of exposure for MCPA. They report  
6 days of exposure for 2,4-D and  
7 2,4,5-T, and then days of exposure  
8 other.

9 So, you know, this is whether  
10 they've ever used a pesticide in their  
11 entire lifetime. And, you know, it's  
12 hard to know whether we're talking  
13 about eight people who used it once in  
14 their lifetime or eight people who  
15 used it twice in their lifetime.

16 Non-Hodgkin's lymphoma tend to  
17 be diagnosed in the late 50s and 60s,  
18 so, you know, to me, when I think  
19 about this, you know, using something  
20 once or twice in your entire  
21 lifetime -- imagine that you're  
22 concerned about nitrosamines in the  
23 diet, and you ask somebody how many  
24 bacon, lettuce and tomato sandwiches  
25 they've eaten in their lifetime, and

♀  
00230

1 they tell you one. And you go, "Oh,  
2 one, okay, great. I'm going to  
3 correlate that with stomach cancer or  
4 something like that."

5 You know, chemical  
6 carcinogenesis doesn't involve -- in  
7 fact, I'm not sure I know of an  
8 instance where one day, two days in a  
9 lifetime of any type of exposure has  
10 actually been determined to be a  
11 causal factor.

12 So this lack of specificity  
13 about how many days we're actually  
14 talking about here in this study and  
15 in the other studies really precludes  
16 people from doing a thorough  
17 evaluation of these studies.

18 MR. MILLER: Move to strike the  
19 answer past the first paragraph as  
20 nonresponsive to the question.

21 MR. COPLE: Objection. The  
22 witness' answer will stand.

23 (Acquavella Exhibit 10-20  
24 marked for identification.)  
25

♀  
00231

1 QUESTIONS BY MR. MILLER:

2 Q. Well, let's look. You keep  
3 referring to your Intertek articles of 2016,  
4 and I want to talk about them for a minute.

5 I think we marked -- we're  
6 going to mark this one, and we still haven't  
7 gotten to some of these exhibits. We will, I  
8 promise. We're going to mark this one as  
9 10-20.

10 Feel free to review it as much  
11 as you need -- appropriate, but since you're  
12 an author, I'm hoping we can get to the  
13 question and answer portion of this in some

14 reasonable period of time.  
15 This is a copy for you, sir. A  
16 copy for counsel. Two copies for counsel.  
17 You've seen this before, right?  
18 A. I'm an author on both articles,  
19 yes, I've seen them.  
20 Q. Yeah, you're an author. Okay.  
21 And what it is, so the jury  
22 understands, it's a review of the  
23 carcinogenic potential of glyphosate by four  
24 independent panels in comparison to the IARC  
25 assessment, written in 2016, right?

♀  
00232

1 A. That's right.  
2 Q. Okay. And you're one of the  
3 authors, John Acquavella, right?  
4 A. I'm one of the authors, yes.  
5 Q. Yes.  
6 And so is David Garabrant,

15 Q. Then we won't go through -- I  
16 mean, do you know that -- by way of example,  
17 Larry Kier has been a paid consultant for  
18 Monsanto?  
19 MR. COPLE: Objection. Lacks  
20 foundation.  
21 THE WITNESS: I'm sorry, what  
22 name?  
23 QUESTIONS BY MR. MILLER:  
24 Q. Larry Kier, I guess?  
25 A. Larry Kier?

♀  
00233

1 Q. Kier, excuse me.  
2 A. Oh, Larry Kier was a Monsanto  
3 employee. Our ten years at Monsanto  
4 overlapped.  
5 Q. Yes.  
6 A. And I think it says in the  
7 disclosure that he's a paid consultant to  
8 Monsanto.  
9 Q. I want to go to that disclosure  
10 and take a few seconds and look at it if we  
11 could. That would be found on the  
12 declaration of interest page. I think it's  
13 16.  
14 It says that "the expert  
15 panelists were engaged by and acted as  
16 consultants to Intertek and were not directly  
17 contacted by the Monsanto Company."  
18 Do you see that, sir?  
19 A. Well, I know best what happened  
20 with the epidemiology panelists. I don't  
21 have as much familiarity with what happened  
22 with the other panelists.

23 But with respect to the  
24 epidemiology panelists, Dr. Marsh,  
25 Dr. Garabrant, Dr. Sorahan and Dr. Weed, I

♀  
00234

1 initially contacted them to see about their  
2 interest and availability to serve on an  
3 epidemiology panel. They indicated interest  
4 and availability if, you know, the  
5 arrangements could be worked out.

6 So at that point I asked their  
7 permission to refer their names to Intertek,  
8 and Intertek contacted them and coordinated  
9 their participation on the panel.

10 Q. Well, you're one of the expert  
11 panelists, right?

12 A. I'm one of the expert  
13 panelists, yes.

14 Q. And it's absolutely false that  
15 you didn't directly contact Monsanto about  
16 this report, isn't it?

17 MR. COPLE: Objection.  
18 Argumentative.

19 QUESTIONS BY MR. MILLER:

20 Q. It's false that you didn't talk  
21 to Monsanto about this report. We have  
22 e-mails about your contact with Dr. Heydens  
23 about that.

24 MR. COPLE: Objection.  
25 Argumentative. Lacks foundation.

♀  
00235

1 QUESTIONS BY MR. MILLER:

2 Q. Before we show these e-mails,  
3 it's also, sir, false where you said "neither  
4 any Monsanto Company employees nor any  
5 attorneys reviewed any of the expert panel  
6 manuscripts prior to submission to the  
7 journal."

8 That's false, isn't it?

9 MR. COPLE: Objection.  
10 Argumentative. Lacks foundation.

11 THE WITNESS: Well, I'm going  
12 to take your first point first.

13 I had a contract directly with  
14 Monsanto Company, and because I had a  
15 contract directly with Monsanto  
16 Company, there wasn't the need to have  
17 a contract with me in order to  
18 compensate me for my independent  
19 evaluation of working on this expert  
20 panel.

21 But all the expert panel  
22 members were paid to participate on  
23 the panel by Monsanto. The monies  
24 either went to Intertek or they came  
25 directly, in my case, where I had a

♀  
00236

1 contract with Monsanto.

2 QUESTIONS BY MR. MILLER:

3 Q. Right.  
4 You had a -- why didn't this

5 say, "John Acquavella is under contract with  
6 Monsanto and being paid by Monsanto to  
7 participate in this panel?" why didn't we  
8 say the truth about that?

9 MR. COPLE: Objection.  
10 Argumentative.

11 THE WITNESS: well, you know, I  
12 will say I've reviewed a number of  
13 times what the journal asks for in  
14 terms of disclosure. They want to  
15 know who sponsored the work. There's  
16 no indication that they really care,  
17 as long as Monsanto has provided  
18 sponsorship for the professional time  
19 that all the panelists contributed.

20 Really, if you ask -- if you  
21 ask me, and, you know, I'm a journal  
22 editor, I deal with these things all  
23 the time, and I think it doesn't  
24 really matter what the individual  
25 contract relationships are. The work

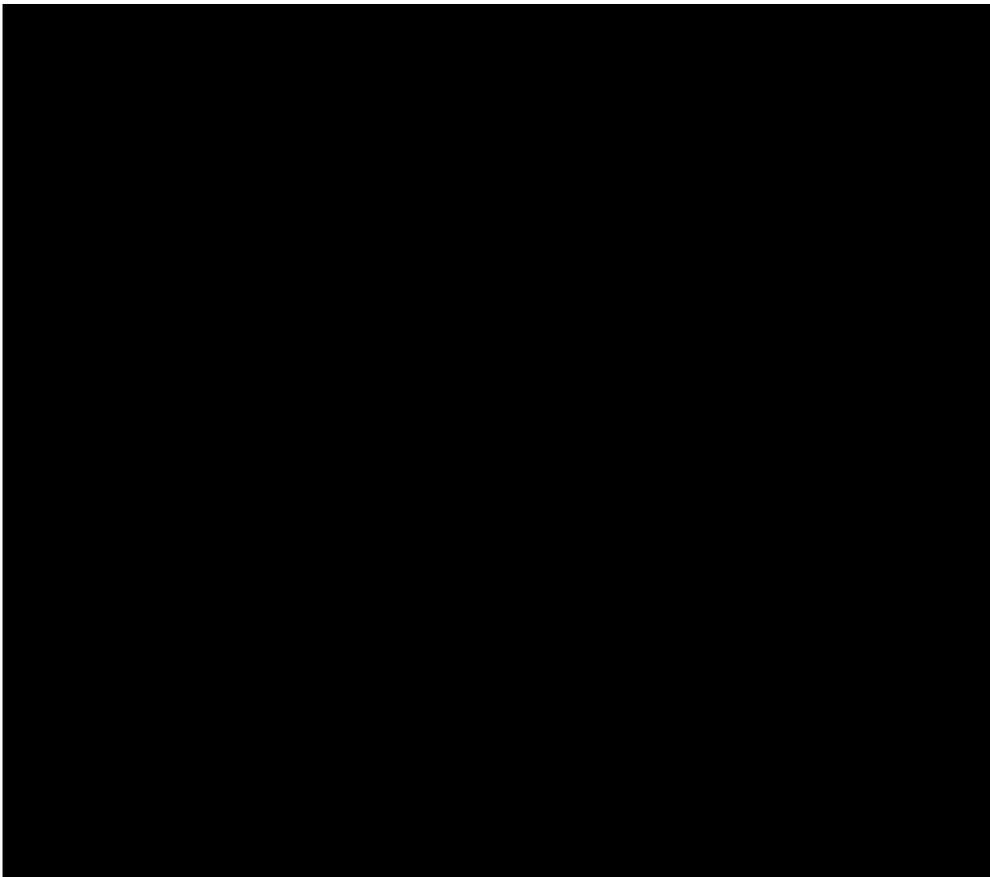
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00237

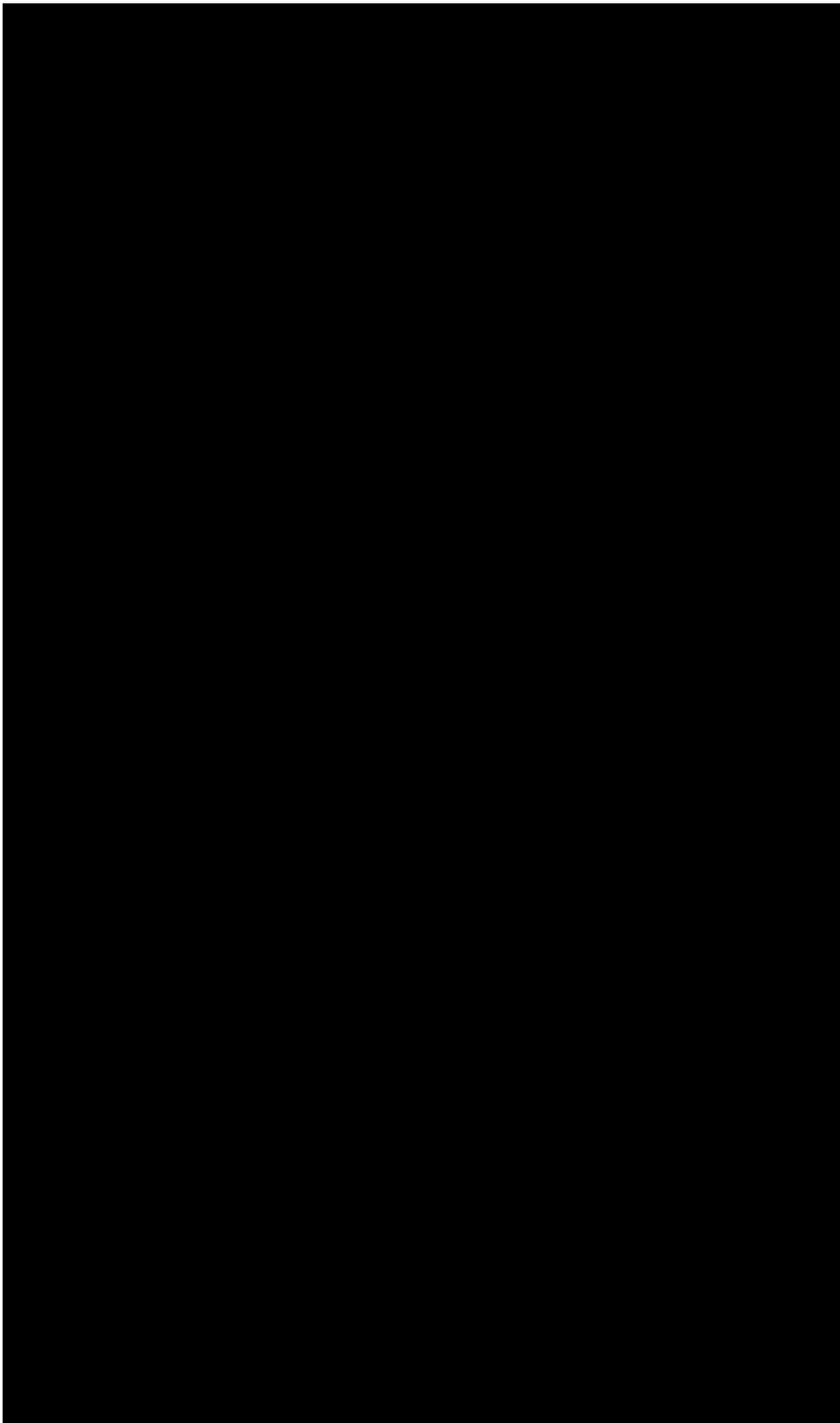
1 of the expert panel was supported by  
2 Monsanto funds, and the panelists were  
3 all engaged to give their independent  
4 scientific opinion of the evidence.

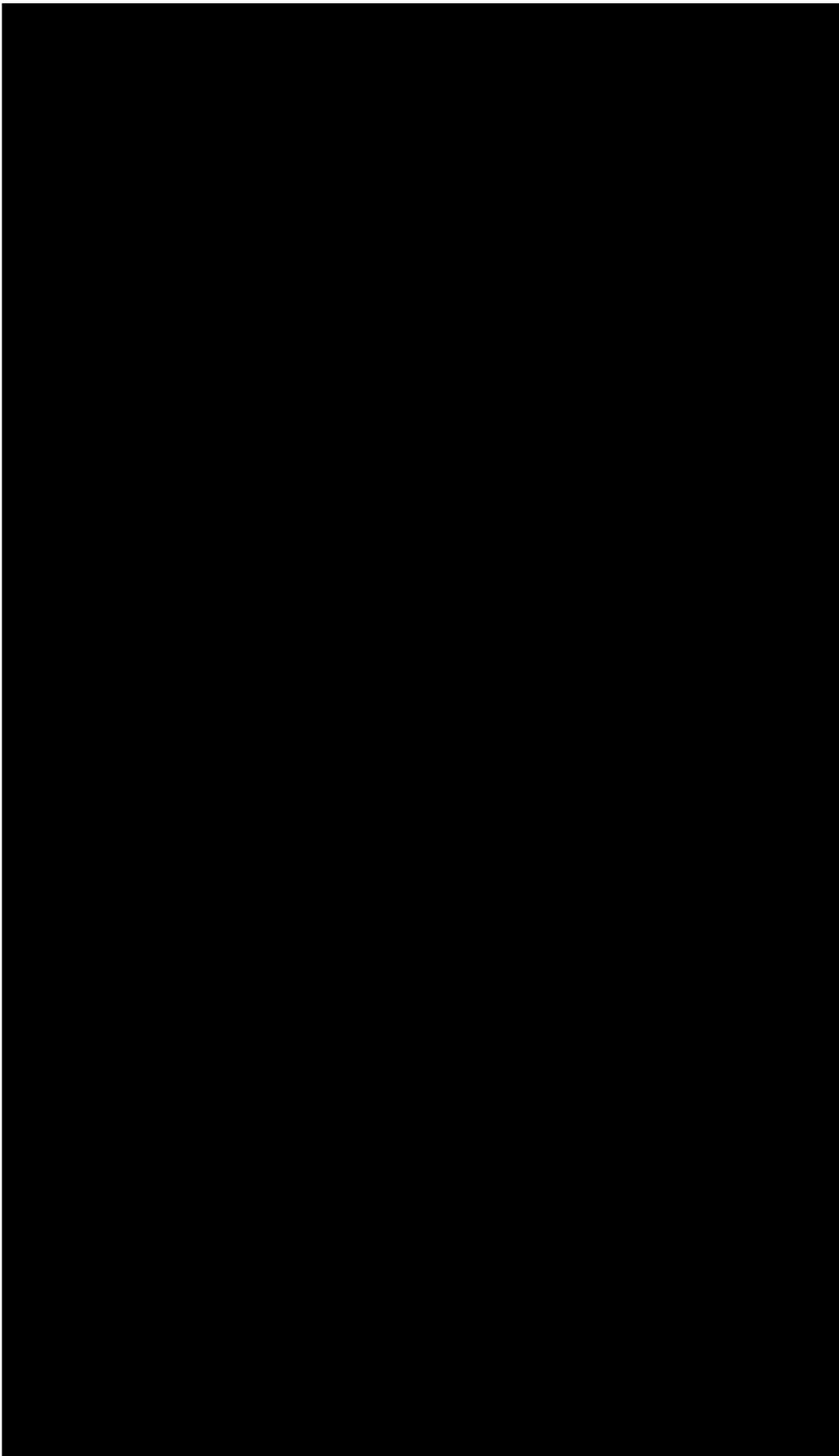
5 QUESTIONS BY MR. MILLER:

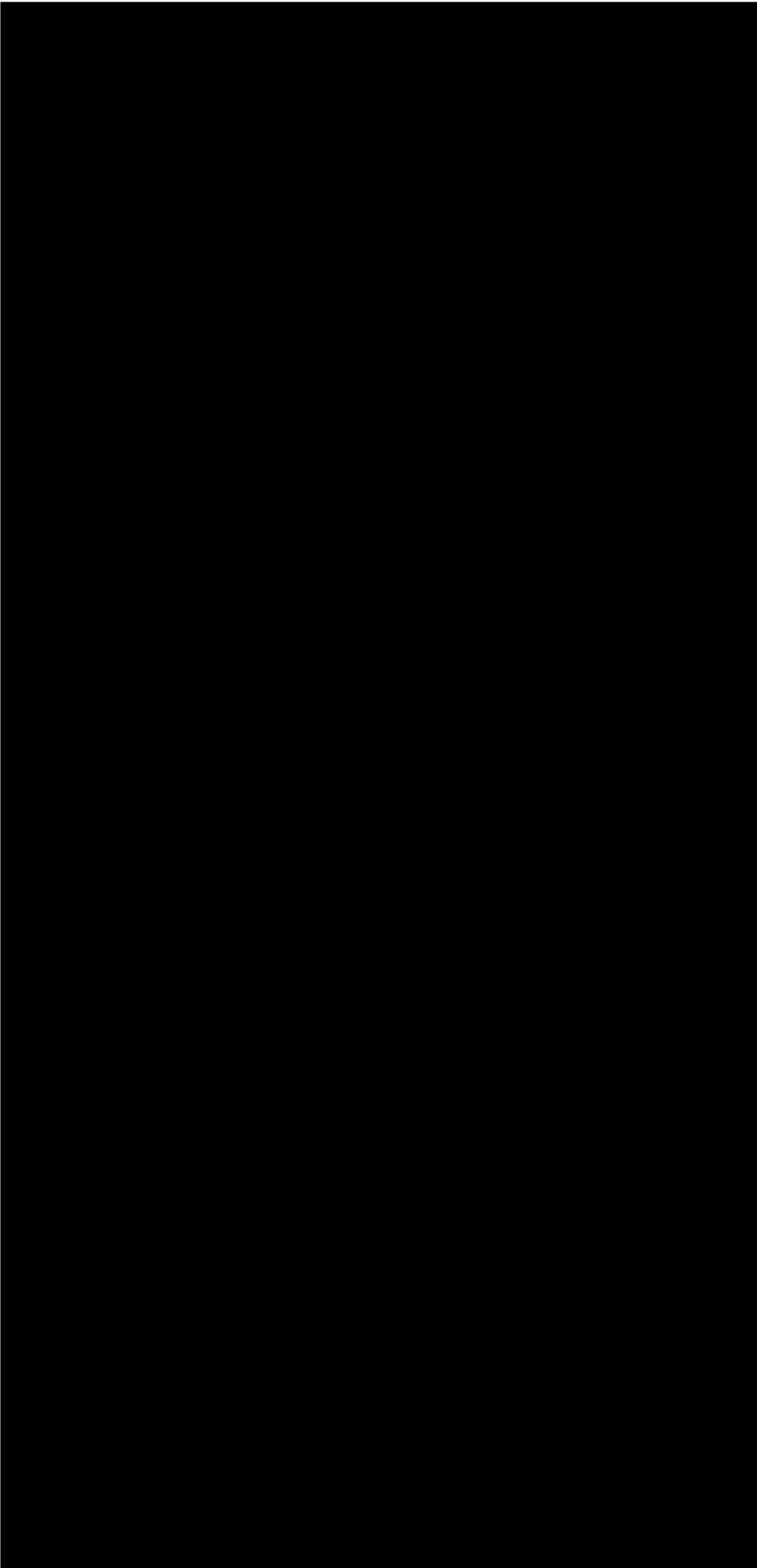
6 Q. Sir, you know who Roger  
7 McClellan is, don't you?

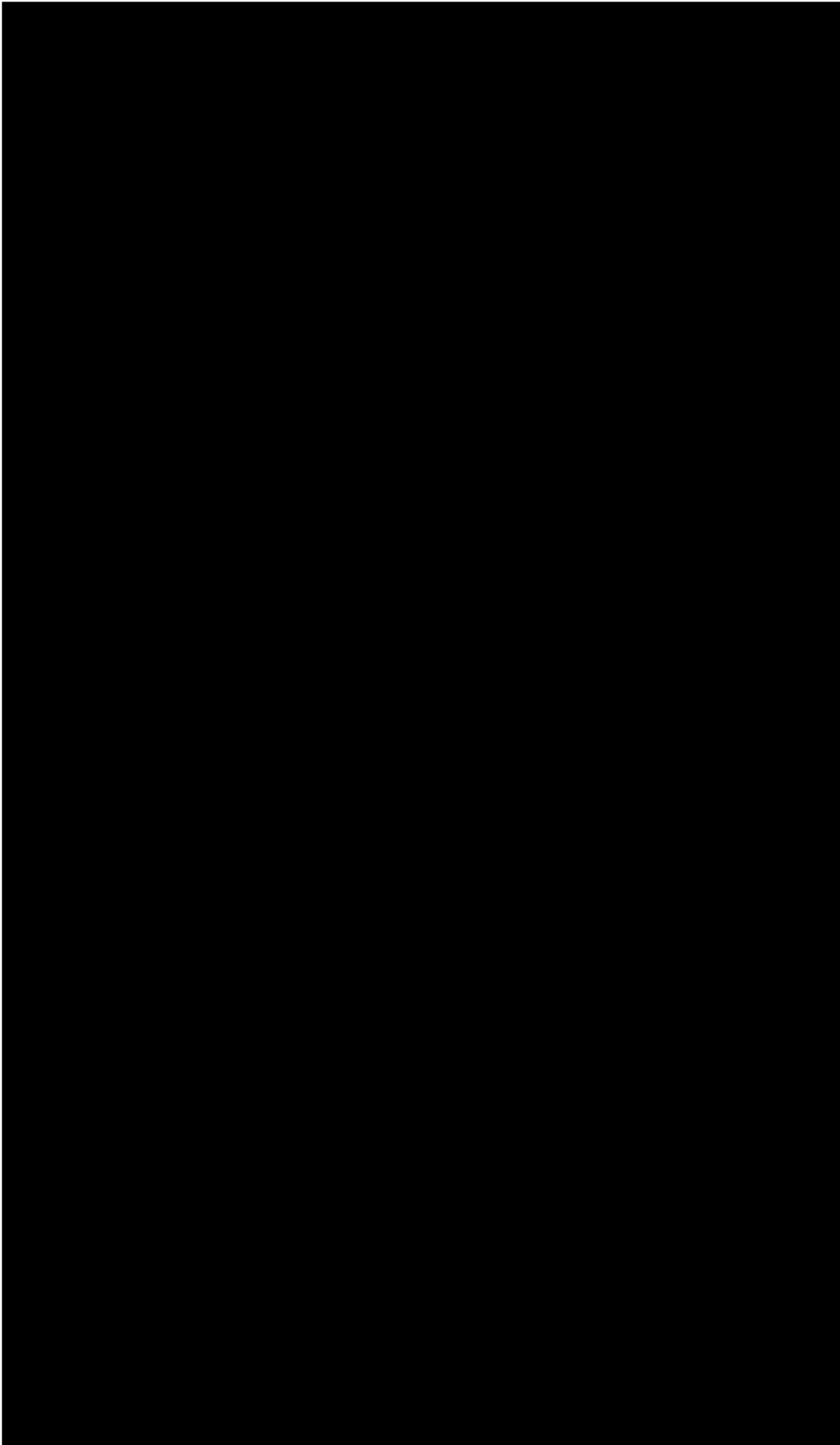
8 A. He's the editor in chief of the

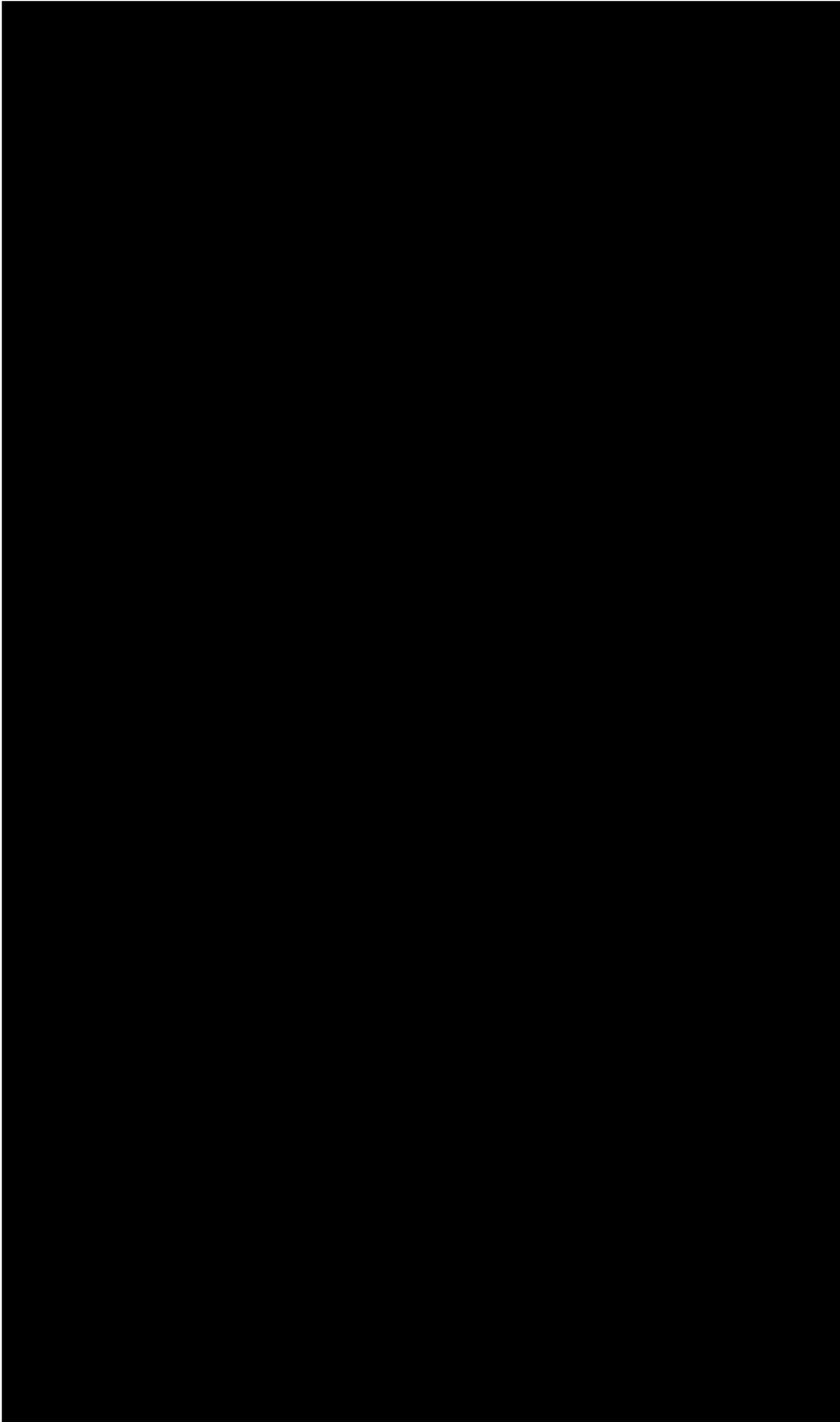


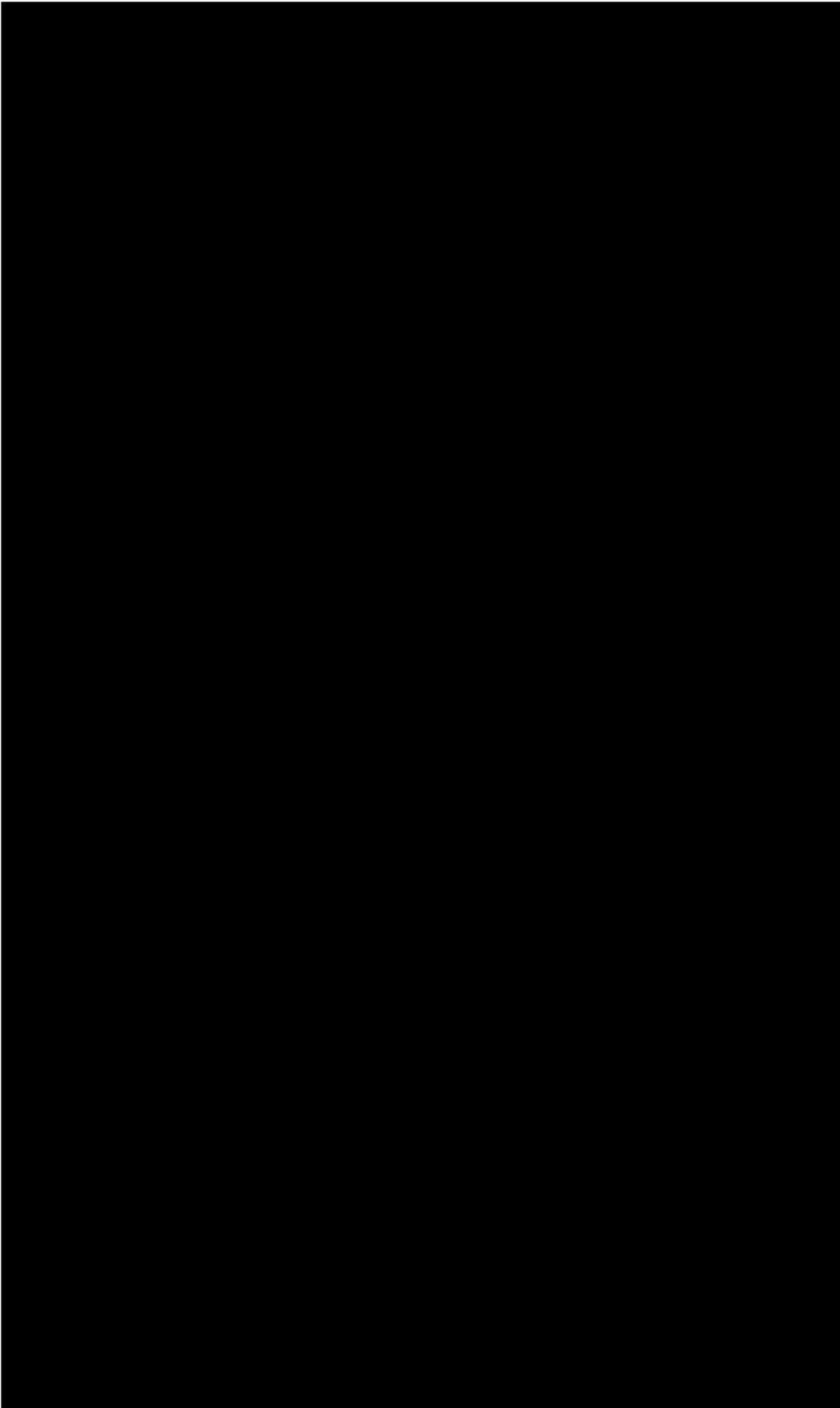


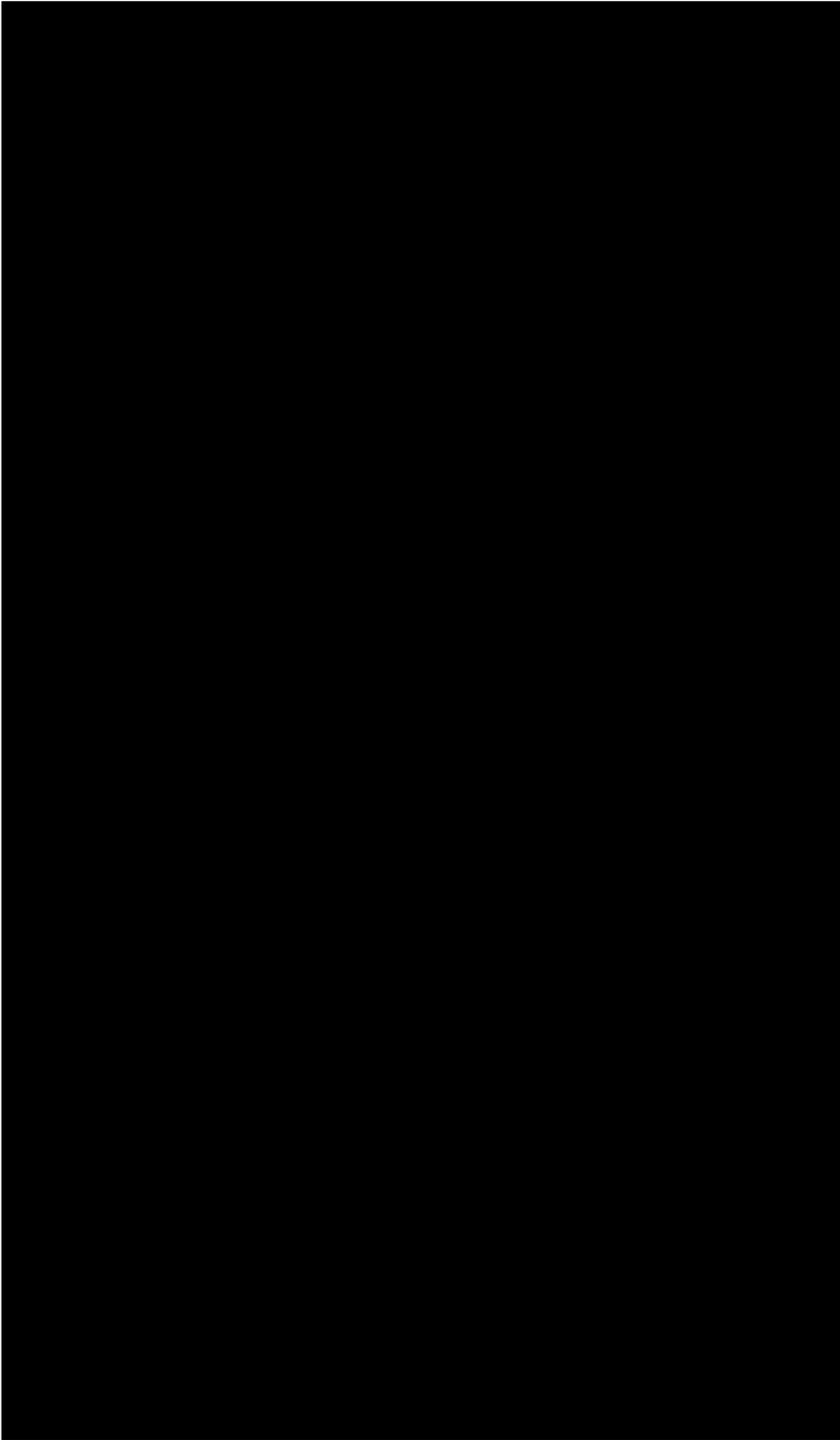


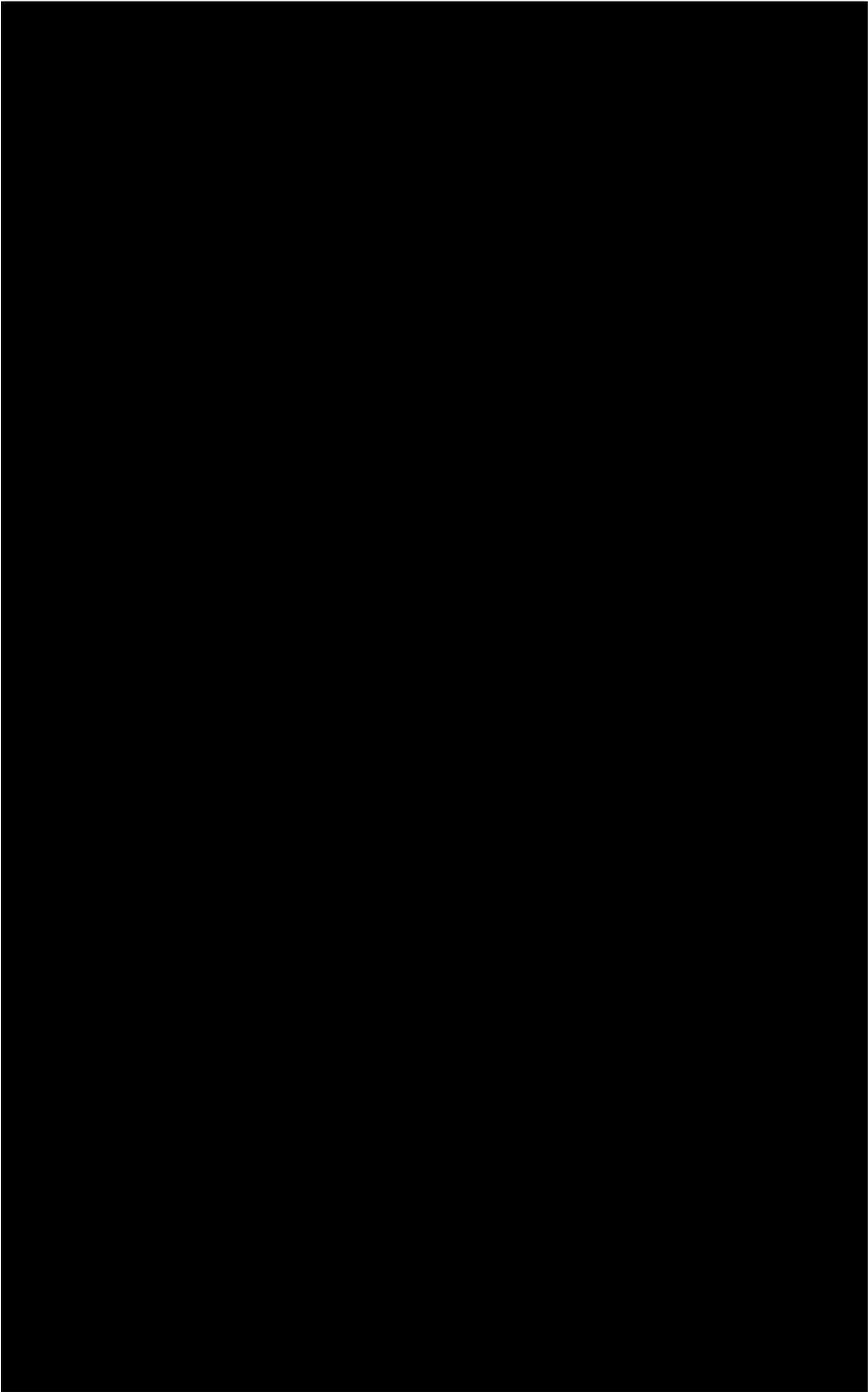












00259

1 QUESTIONS BY MR. MILLER:

2 Q. Yes, sir.

3 You've been talking a lot today  
4 about good science, and generally speaking,  
5 you remember us discussing that issue?

6 MR. COPLE: Objection. The  
7 record speaks for itself.

8 THE WITNESS: well, I've always  
9 had in mind that my role is to -- is  
10 to contribute positively to the  
11 evolution of scientific information in  
12 pesticide epidemiology and in other  
13 areas.

14 QUESTIONS BY MR. MILLER:

15 Q. And, sir, I just want to ask  
16 you, last question and we're going to leave  
17 the area, but I think it's -- how is it good  
18 science, if you're under contract, not to  
19 reveal anything negative?

20 wouldn't good science reveal  
21 itself, negative or positive?

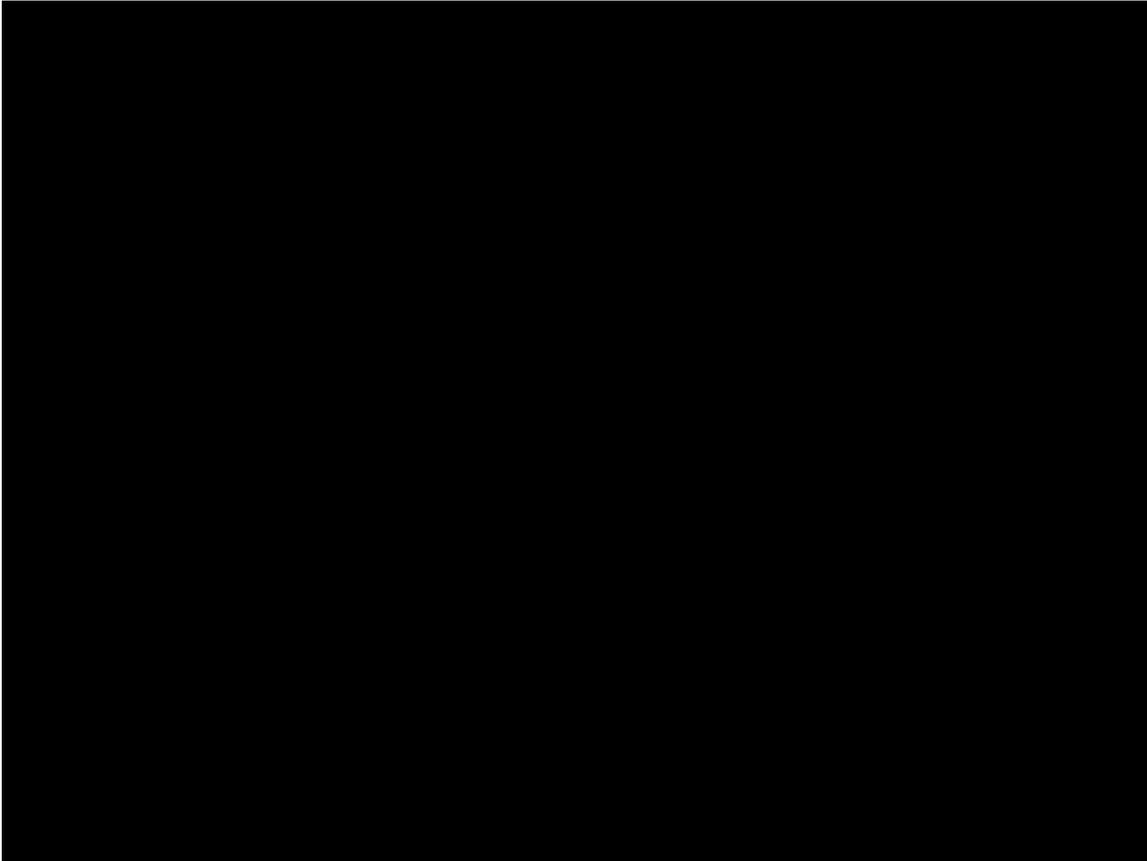
22 MR. COPLE: Objection.  
23 Argumentative and outside the scope of  
24 the Court's order on general  
25 causation.

♀  
00260

1 THE WITNESS: Disclosure of  
2 interest has nothing to do with the  
3 quality of the science.

4 The quality of science is  
5 what's reflected in the work that the  
6 panel did. And that could be judged  
7 by people who review the article.

8 As I said, we went above and  
9 beyond what the requirements for  
10 disclosure was. Anybody who would  
11 read that disclosure, if they thought  
12 it was important to know my history of  
13 having worked for Monsanto, my history  
14 of having consulted on a litigation  
15 matter for the chemical company not  
16 related to glyphosate, or my being  
17 paid for my professional time while I  
18 was working on this document, has all  
19 that information in our disclosure of  
20 interest.



3 (Acquavella Exhibit 10-28  
4 marked for identification.)  
5 QUESTIONS BY MR. MILLER:  
6 Q. Exhibit 10-28. It is a  
7 conflict of interest documentation by the  
8 ICMJE. I have a copy of you, sir, as well as  
9 counsel.  
10 Review it with me once you've  
11 had time to look at it, sir.  
12 A. Yes, sir, I read it.  
13 Q. All right, sir.  
14 This is the International  
15 Committee for Medical Journal Editors, right,  
16 sir?  
17 A. That's right.  
18 Q. Okay. And it's a statement on  
19 conflicts of interest, right, sir?  
20 MR. COPLE: Objection.  
21 Exhibit 10-28 and questions pertaining  
22 to it are outside the scope of the  
23 Court's order on general causation.  
24 QUESTIONS BY MR. MILLER:  
25 Q. You can answer.

♀  
00263  
1 A. It's a document about conflicts  
2 of interest.  
3 Q. And it says in pertinent  
4 part -- I'm going to ask if you agree --  
5 "public trust." Quote, "Public trust in the  
6 scientific process and the credibility of  
7 published articles depend in part on how  
8 transparently conflict of interest are  
9 handled during the planning, implementation  
10 and writing, peer review, editing and  
11 publication of scientific work," end quote.  
12 That's true, isn't it?  
13 MR. COPLE: Objection.  
14 Argumentative. And it's also outside  
15 the scope.  
16 THE WITNESS: So that's what  
17 they wrote. That's their position on  
18 public trust.  
19 QUESTIONS BY MR. MILLER:  
20 Q. You don't agree with it?  
21 MR. COPLE: Objection.  
22 Argumentative.  
23 THE WITNESS: Well, you just --  
24 you just asked me -- you stated it,  
25 and you just asked me if that's what

♀  
00264  
1 they wrote, so I said, yes, that's  
2 what they wrote.  
3 QUESTIONS BY MR. MILLER:  
4 Q. I'm looking at what I asked,

5 and it's amazing what these computers do. I  
6 asked, "that's true, isn't it?"

7 So I'm asking you now: Isn't  
8 that a true statement, that public trust is  
9 relevant if these conflicts aren't disclosed?

10 MR. COPLE: Objection.

11 Argumentative and outside the scope of  
12 the Court's order.

13 THE WITNESS: So the public  
14 relies on, you know, authors to  
15 disclose based on their best  
16 interpretation of the conflict of  
17 interest disclosure instructions that  
18 journals have, and that's what we did.

19 QUESTIONS BY MR. MILLER:

20 Q. And what they warn about, these  
21 International Committee of Medical Journal  
22 Editors, is, quote, "A conflict of interest  
23 exists when professional judgment concerning  
24 a primary interest, such as a patient's  
25 welfare or the validity of research, may be

♀  
00265

1 influenced by a secondary interest such as  
2 financial gain."

3 Right, sir?

4 MR. COPLE: Objection. Outside  
5 the scope of the Court's order on  
6 general causation.

7 THE WITNESS: So they have  
8 written -- well, I would probably  
9 write this as a potential conflict of  
10 interest exists.

11 But, you know, our panels were  
12 independent of the sponsor. We were  
13 developing an independent work  
14 product. We're obviously aware that  
15 the work was being sponsored by  
16 Monsanto Company, so we took extra  
17 pains to make sure that our work in  
18 the epidemiology panel was independent  
19 of the sponsor.

20 And so as I mentioned, we went  
21 above and beyond, not only in the  
22 disclosure that we made but also in  
23 the way we set up our panel. And from  
24 the start, the result of our panel  
25 evaluation was independent and was

♀  
00266

1 going to be submitted for publication.

2 QUESTIONS BY MR. MILLER:

3 Q. Financial interests such as  
4 employment, which you did disclose your prior  
5 employment with Monsanto, but the  
6 consultancies, you didn't disclose in your  
7 declaration of interests your current  
8 consultancy with Monsanto, true?

9 MR. COPLE: Objection.

10 Argumentative and outside the scope of  
11 the Court's order.

12 THE WITNESS: well, I think  
13 that's included in saying that my

14 efforts on this -- this body of work  
15 was funded by Monsanto Company.

16 QUESTIONS BY MR. MILLER:

17 Q. You did not disclose your stock  
18 ownership in Monsanto, did you, sir?

19 MR. COPLE: Objection.

20 Argumentative and outside the scope of  
21 the Court's order on general  
22 causation.

23 QUESTIONS BY MR. MILLER:

24 Q. You can answer.

25 A. well, I have a miniscule amount

♀  
00267

1 of Monsanto stock that I got 30 years ago;  
2 don't even know how much it is. But, I mean,  
3 really, I could look up every mutual fund I  
4 have investment in and try to see, you know,  
5 what companies are associated with that.

6 At some point you've got to try  
7 to get a sense of what the information is  
8 that would be useful to readers. And as I  
9 mentioned in this case, disclosed that I was  
10 paid for, that my consulting time was  
11 compensated by Monsanto, that I was a former  
12 Monsanto employee, even though that was  
13 12 years ago, and that I had worked for the  
14 old Monsanto Company over the past year in  
15 consulting on litigation for something that  
16 wasn't related to glyphosate.

17 So, I mean, to me, we thought  
18 we went above and beyond what the journal  
19 asked for. All of us tried to go above and  
20 beyond what the journal asked for.



13 Q. The journal -- the  
14 International Committee for Medical Journal  
15 Editors cautions for people to avoid the  
16 precise kind of contract that you've entered  
17 into with Monsanto. I'd like to read and see  
18 if you disagree.  
19 Quote, "Authors should avoid  
20 entering into agreements with study sponsors,  
21 both for profit and not for profit, that  
22 interfere with the author's access to all the  
23 study's data or that interfere with their  
24 ability to analyze and interpret the data,  
25 and to prepare and publish manuscript

♀  
00270

1 independently when and where they choose."  
2 That is exactly what you did.  
3 You entered into a contract that said you  
4 could only use the information if it  
5 benefitted Monsanto.

6 Remember talking about that  
7 with me?

8 MR. COPLE: Objection.

9 Mischaracterizes the testimony of the  
10 witness. Argumentative and outside  
11 the scope of the Court's order.

12 THE WITNESS: So I answered  
13 that question for you previously.  
14 I'll just remind you that the setup of  
15 the expert panels was that the work  
16 was going to be done independently of  
17 Monsanto and that it was going to be  
18 submitted for publication.

19 QUESTIONS BY MR. MILLER:

20 Q. Is it your testimony that these  
21 Intertek reports were not sent to Monsanto to  
22 review before they're published?

23 Is that your testimony?

24 MR. COPLE: Objection.

25 Argumentative.

♀  
00271

1 QUESTIONS BY MR. MILLER:

2 Q. You can answer.

3 A. Okay. So Monsanto sponsored  
4 the work of the expert panels, and most

5 epidemiology research of any magnitude and  
6 toxicology research is sponsored. And I've  
7 been both sponsored by a company and I've  
8 also had the experience of being the  
9 representative of a sponsor when I worked for  
10 the Environmental Protection Agency and, you  
11 know, and other -- when I worked for Amgen  
12 and the like.

13           The standard practice in  
14 producing a product for a sponsor is to give  
15 them a chance to see the final product before  
16 it gets submitted for publication. That's  
17 what we did here.

18           When I say "see," I mean they  
19 got a chance to see it, and if they had any  
20 questions, they could ask questions. But  
21 they didn't have any input into the content  
22 of the documents.

23           Any of the questions or  
24 comments they raised, we took back to  
25 consider and discuss, but it was our

♀  
00272

1 independent assessment and final judgment as  
2 to whether or not any changes were made to  
3 the manuscripts. They were done as  
4 independently as is possible from the  
5 sponsor.

6           Q.       Dr. Acquavella, you and your  
7 panelists state here, quote, "Neither any  
8 Monsanto Company employee nor any attorneys  
9 reviewed any of the expert panel manuscripts  
10 prior to submission to the journal," end  
11 quote.

12                   That is absolutely false, isn't  
13 it?

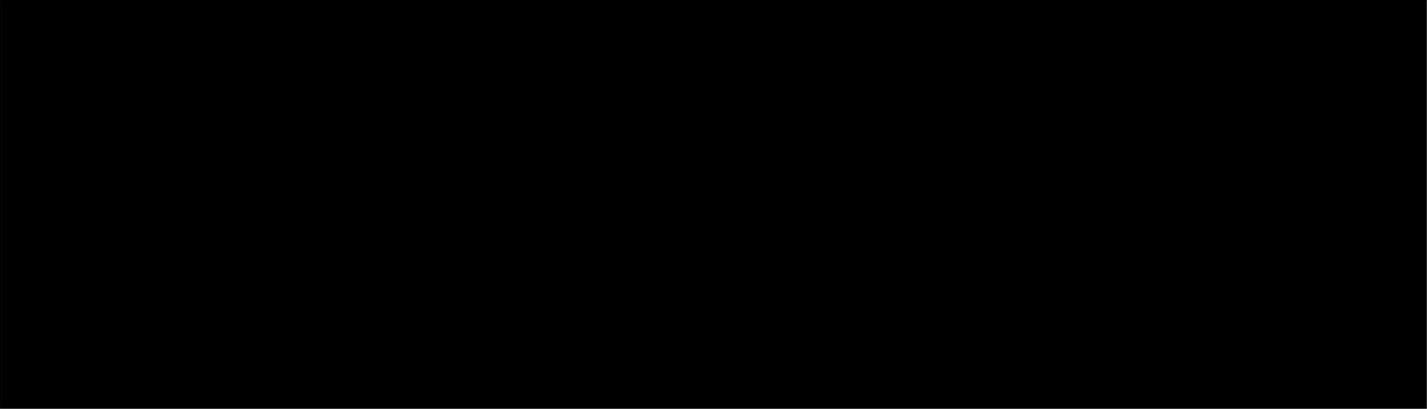
14                   MR. COPLE: Objection.  
15 Argumentative.

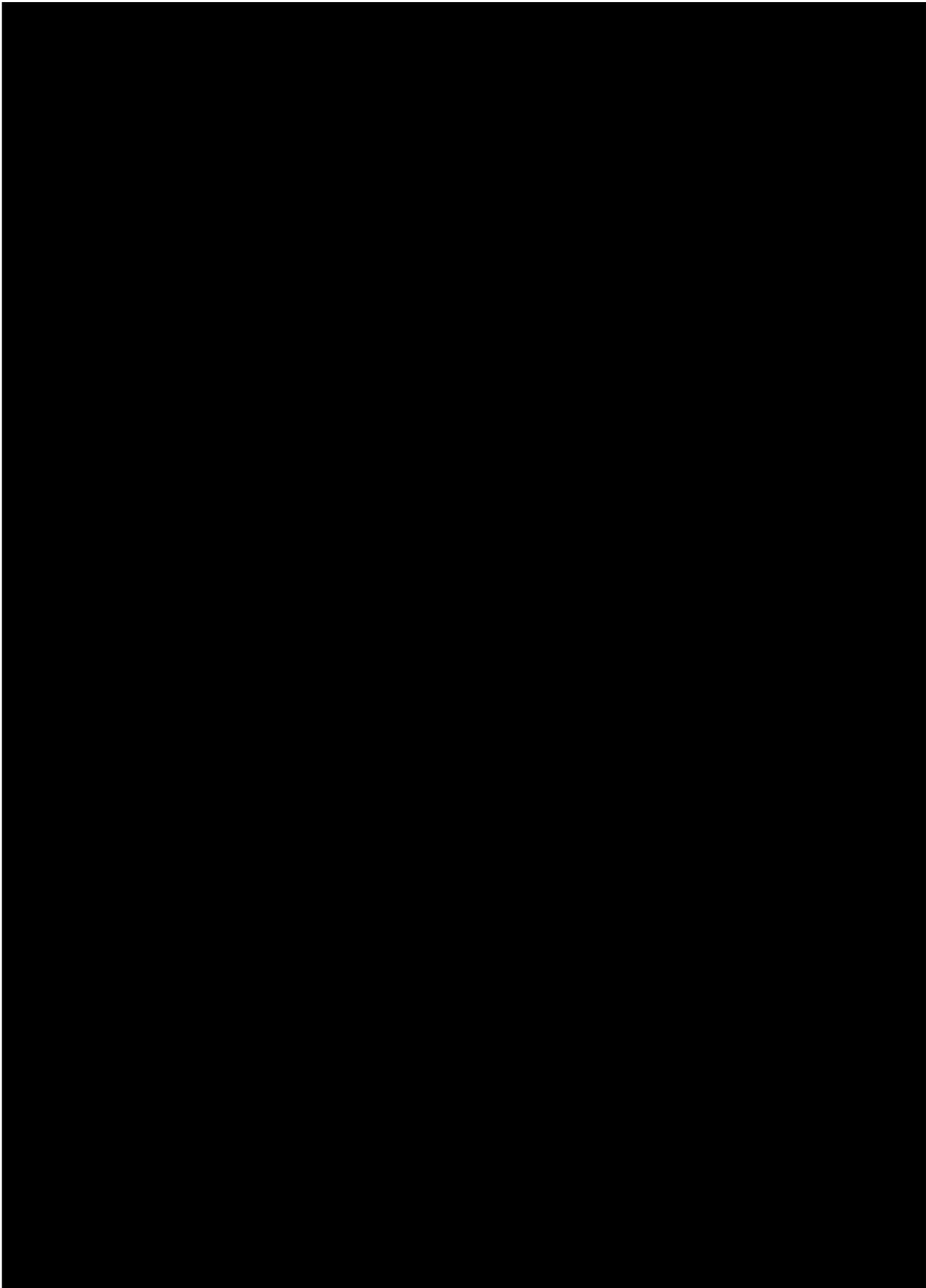
16                   THE WITNESS: Okay. So what I  
17 think we meant there and what -- the  
18 way I interpret that is that Monsanto  
19 didn't have a reviewer role whereby  
20 they could change the content of the  
21 manuscripts before they were submitted  
22 to the journal.

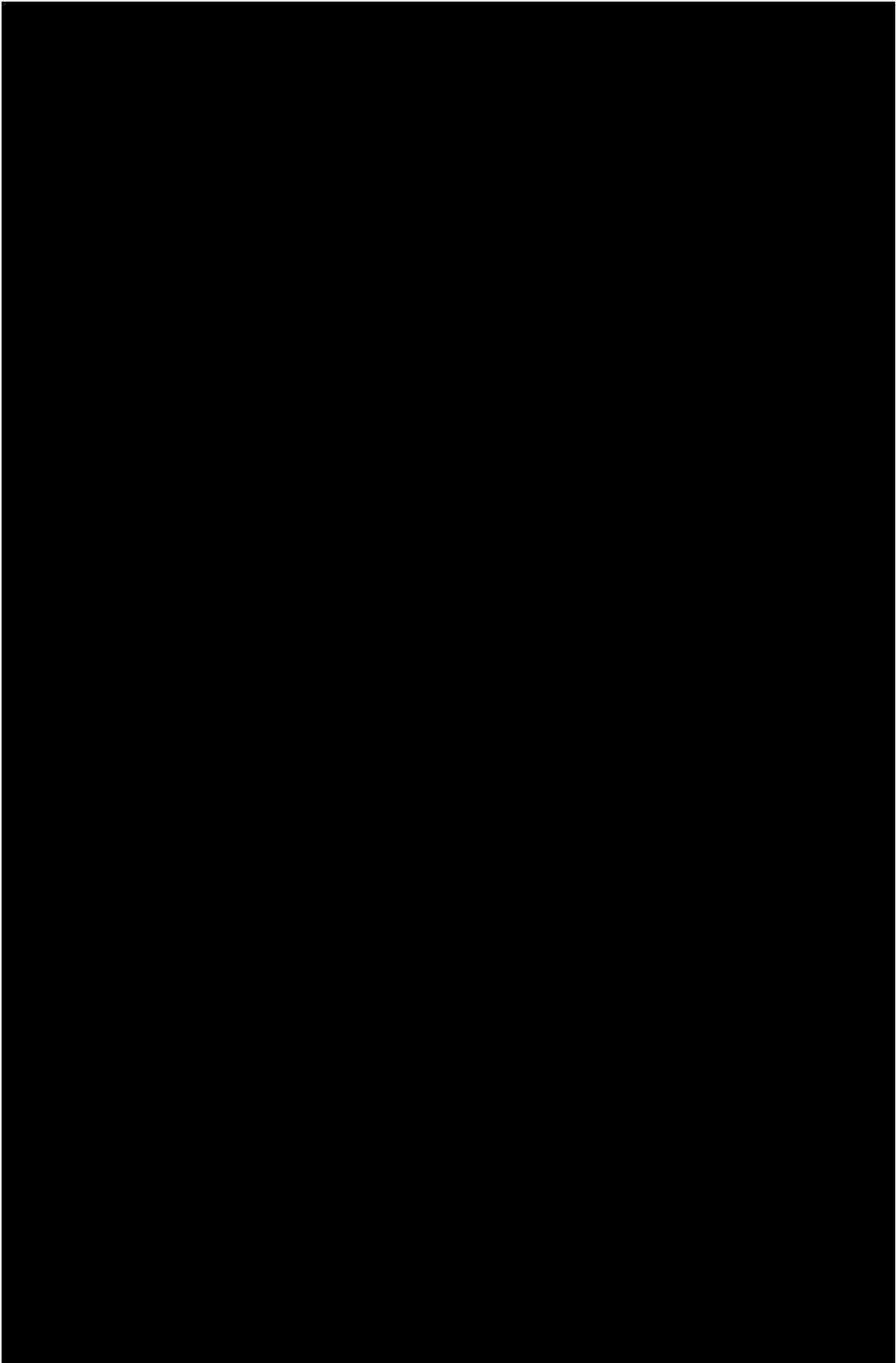
23                   (Acquavella Exhibit 10-31  
24 marked for identification.)  
25

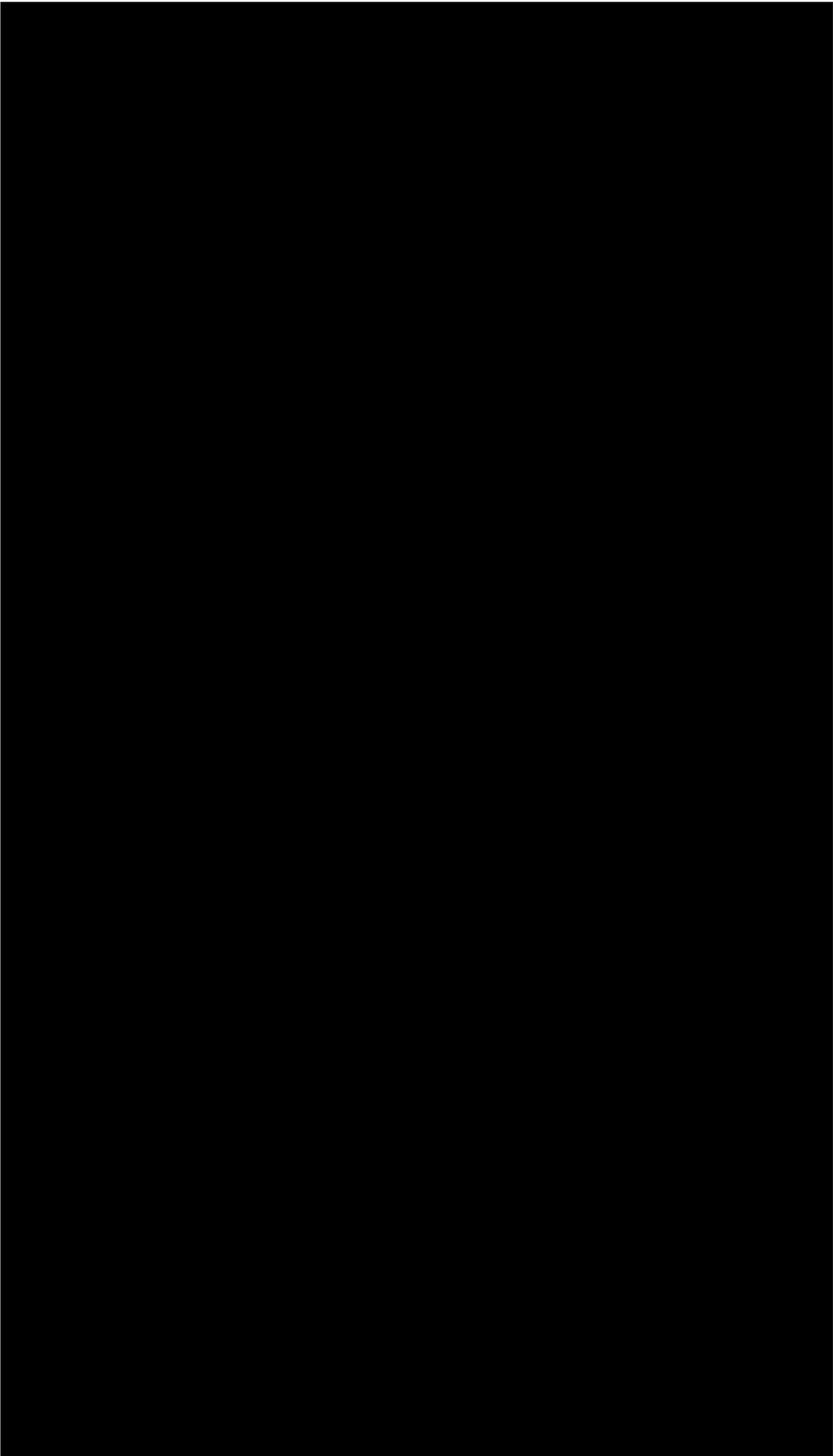
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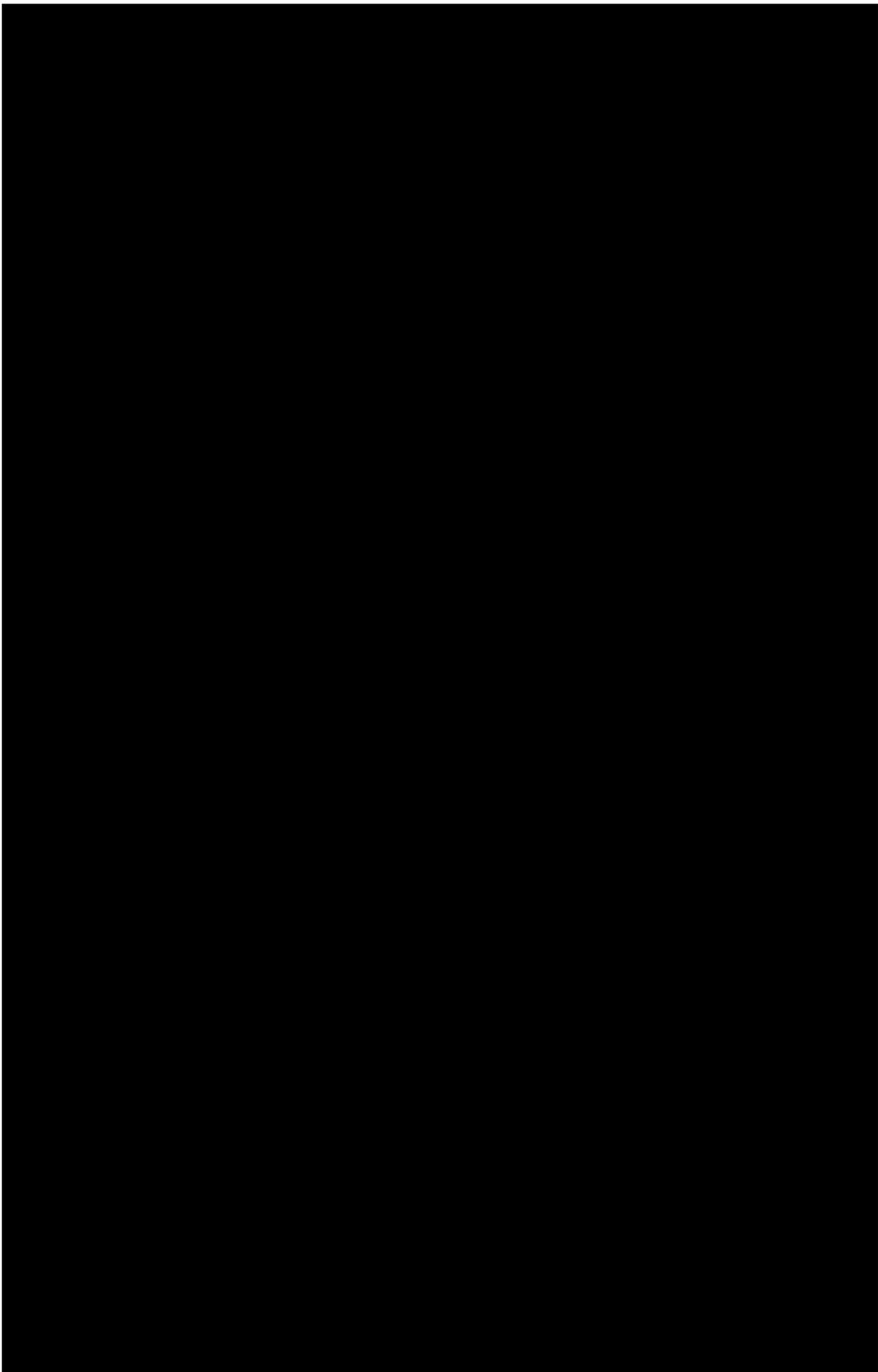
1    QUESTIONS BY MR. MILLER:

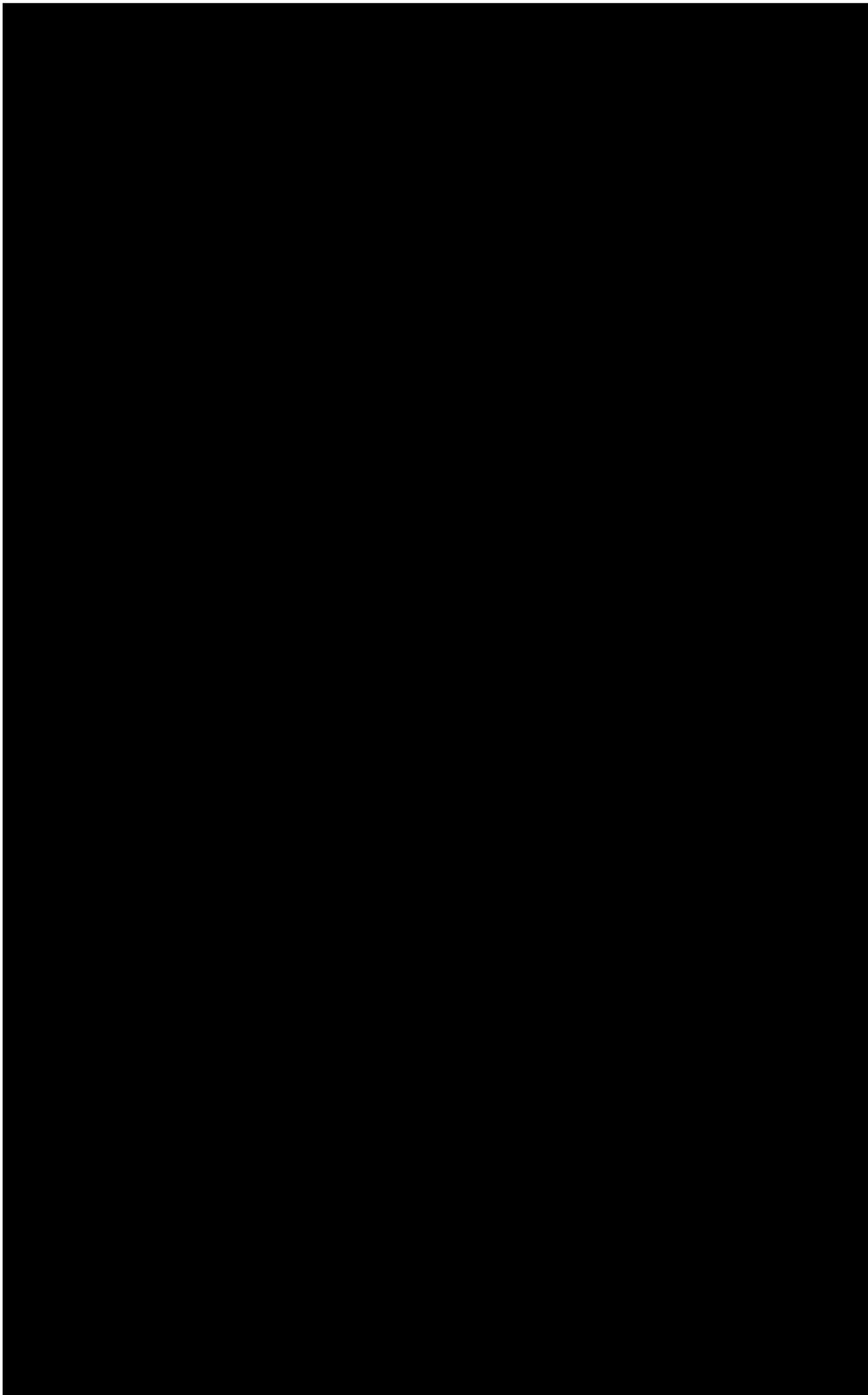


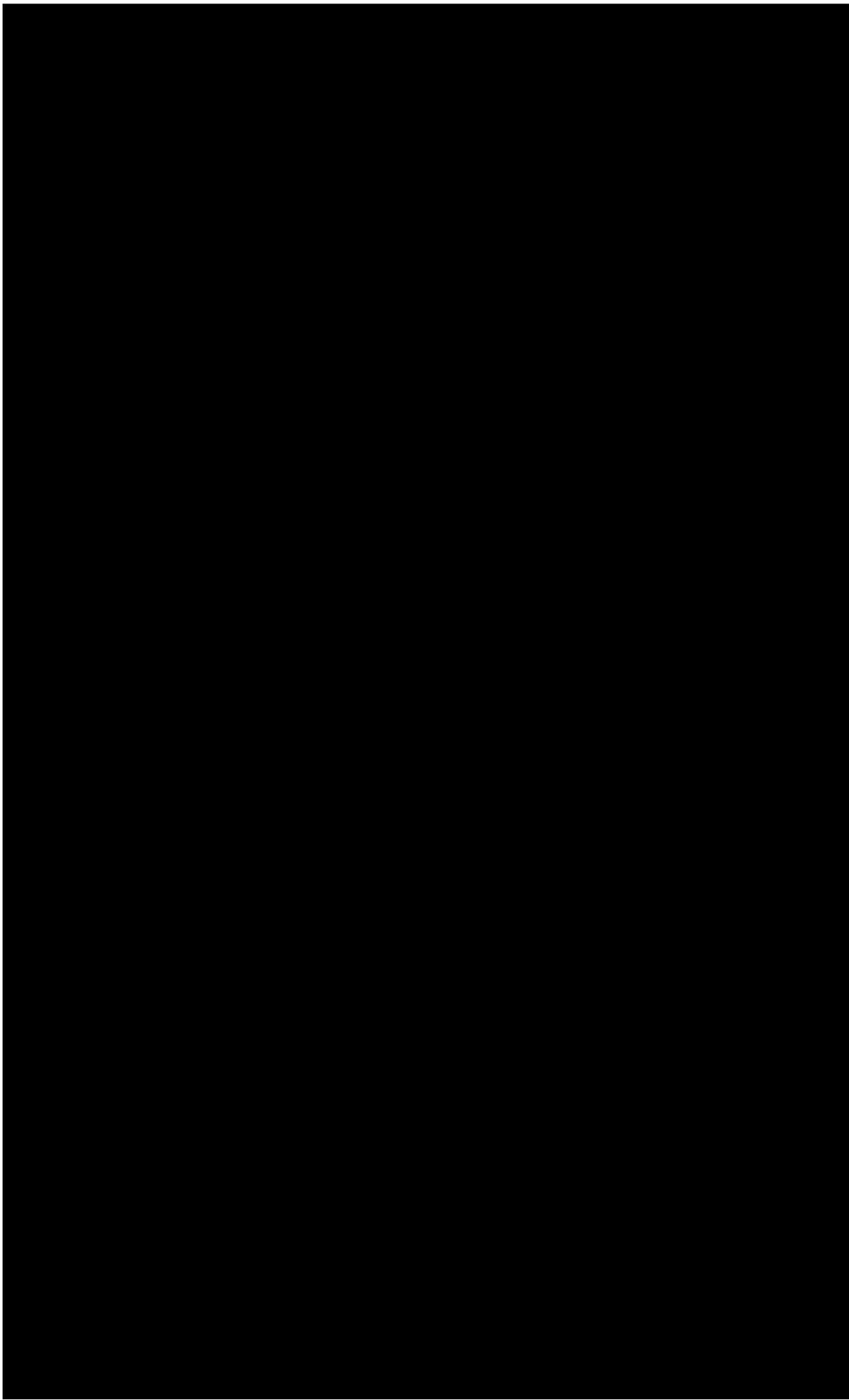


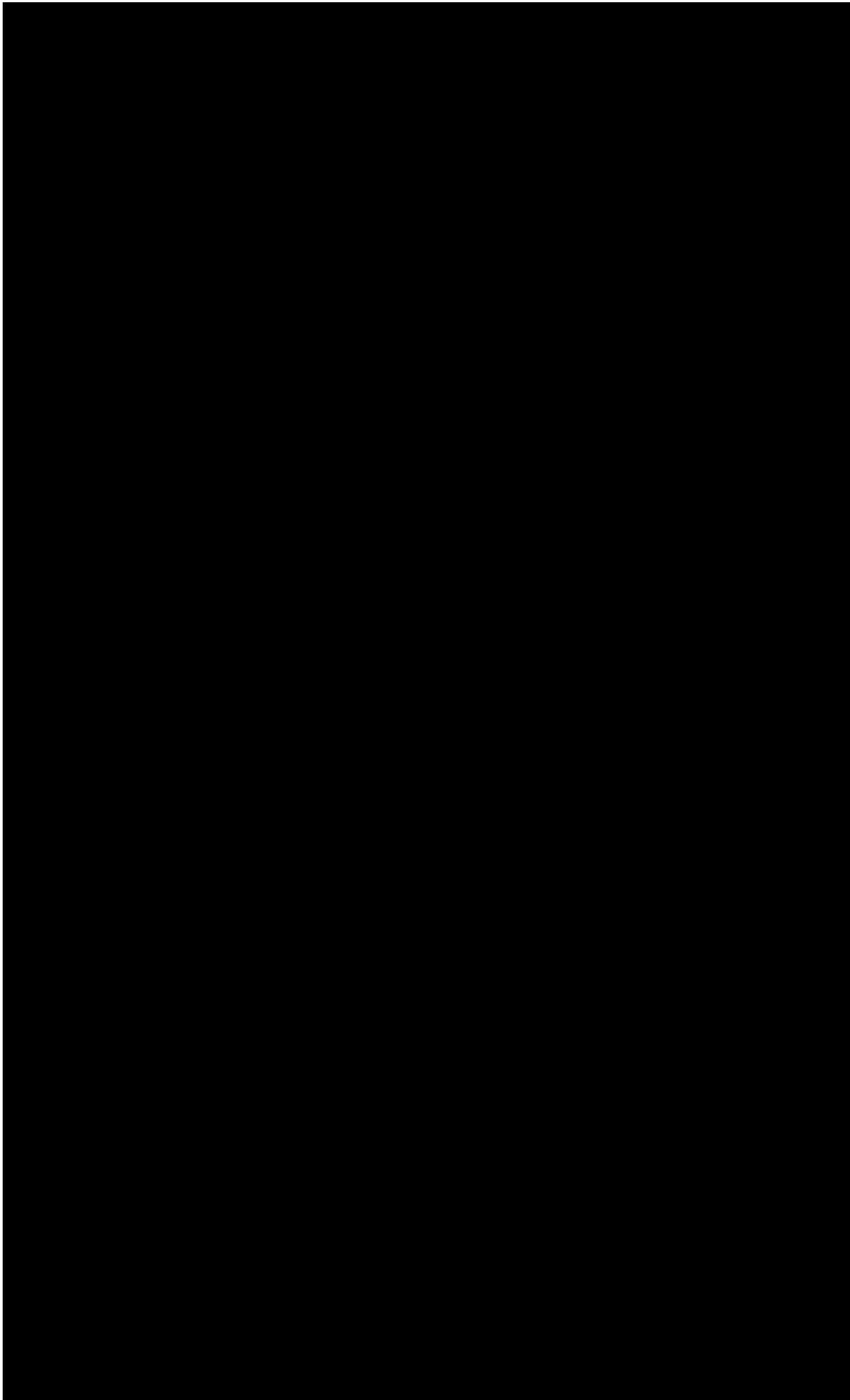


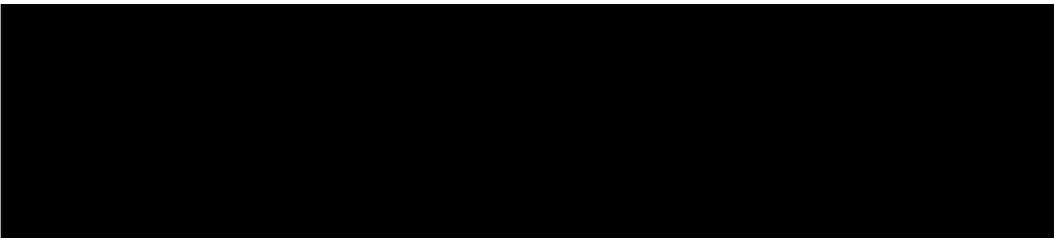












3 introduction. Dr. Weed wrote a section on  
 4 how the literature search was done.  
 5 Dr. Marsh wrote a section on how the  
 6 statistical analysis considerations were  
 7 appropriate.

8 Dr. Weed, who is an expert in  
 9 causal inference and has published many  
 10 papers on that, wrote our causal inference  
 11 section, and then I outlined the conclusions  
 12 of the panel about what we thought about the  
 13 individual studies and the weight of the  
 14 evidence.

15 So it wasn't done the way this  
 16 says in this PowerPoint presentation taken at  
 17 face value. It was done the way I just  
 18 described it to you.

19 MR. MILLER: Move to strike as  
 20 nonresponsive.

21 MR. COPLE: Objection. The  
 22 witness' answer will stand.

23 Before you proceed, Counsel,  
 24 we've been going for one hour and  
 25 40 minutes.

♀  
 00291

1 MR. MILLER: You want to take a  
 2 break?

3 MR. COPLE: It's up to the  
 4 witness.

5 MR. MILLER: It's up to the  
 6 witness.

7 THE WITNESS: Yeah, it would be  
 8 nice to take a break. Thank you.

9 VIDEOGRAPHER: Going off  
 10 record. The time is 4:27. This ends  
 11 Media 4.

12 (Off the record at 4:27 p.m.)

13 VIDEOGRAPHER: We're going back  
 14 on record. The time is 4:47. This is  
 15 the beginning of Media 5.

16 QUESTIONS BY MR. MILLER:

17 Q. All right, Dr. Acquavella, just  
 18 a few more questions about the Intertek panel  
 19 manuscript and we'll move on to something  
 20 else.

21 But I want to go back and  
 22 refresh ourselves about the Exhibit 10-20  
 23 review article and the declaration of  
 24 interest.

25 To just frame us, it says,

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 00292

1 "Neither any Monsanto Company employees nor  
 2 any attorneys reviewed any expert panel's  
 3 manuscript prior to submission to the  
 4 journal."

5 Remember we've been talking  
6 about that sentence, and generally speaking,  
7 we've had a discussion about that sentence,  
8 right?

9 A. We've discussed that sentence,  
10 yes.

11 Q. Yes, sir.  
12 And my next question is to you,  
13 sir, not only did Monsanto employees review  
14 the manuscript before submission to the  
15 journal, they helped write it; isn't that  
16 true?

17 MR. COPLE: Objection.  
18 Argumentative. Lacks foundation.  
19 THE WITNESS: They didn't help  
20 write it.

21 I explained to you how the  
22 epidemiology panel worked, and as I  
23 mentioned to you before, that the  
24 documents -- the final reports were  
25 shared with the sponsor for comments

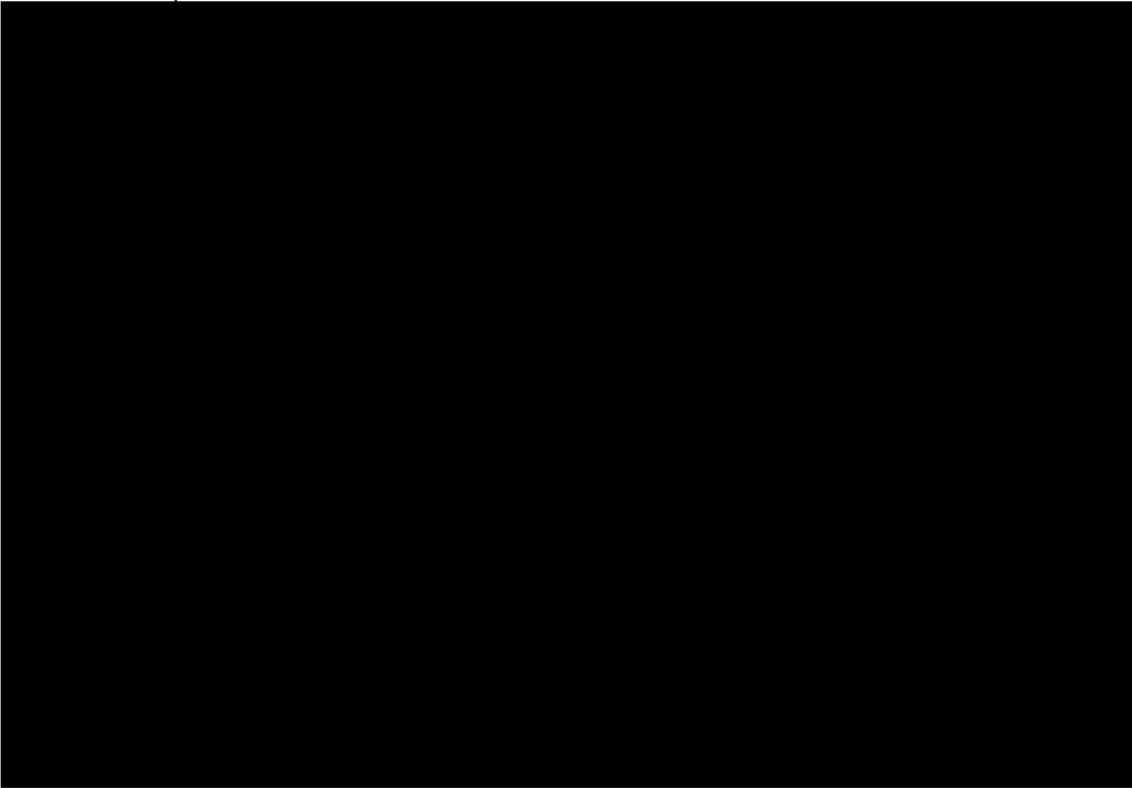
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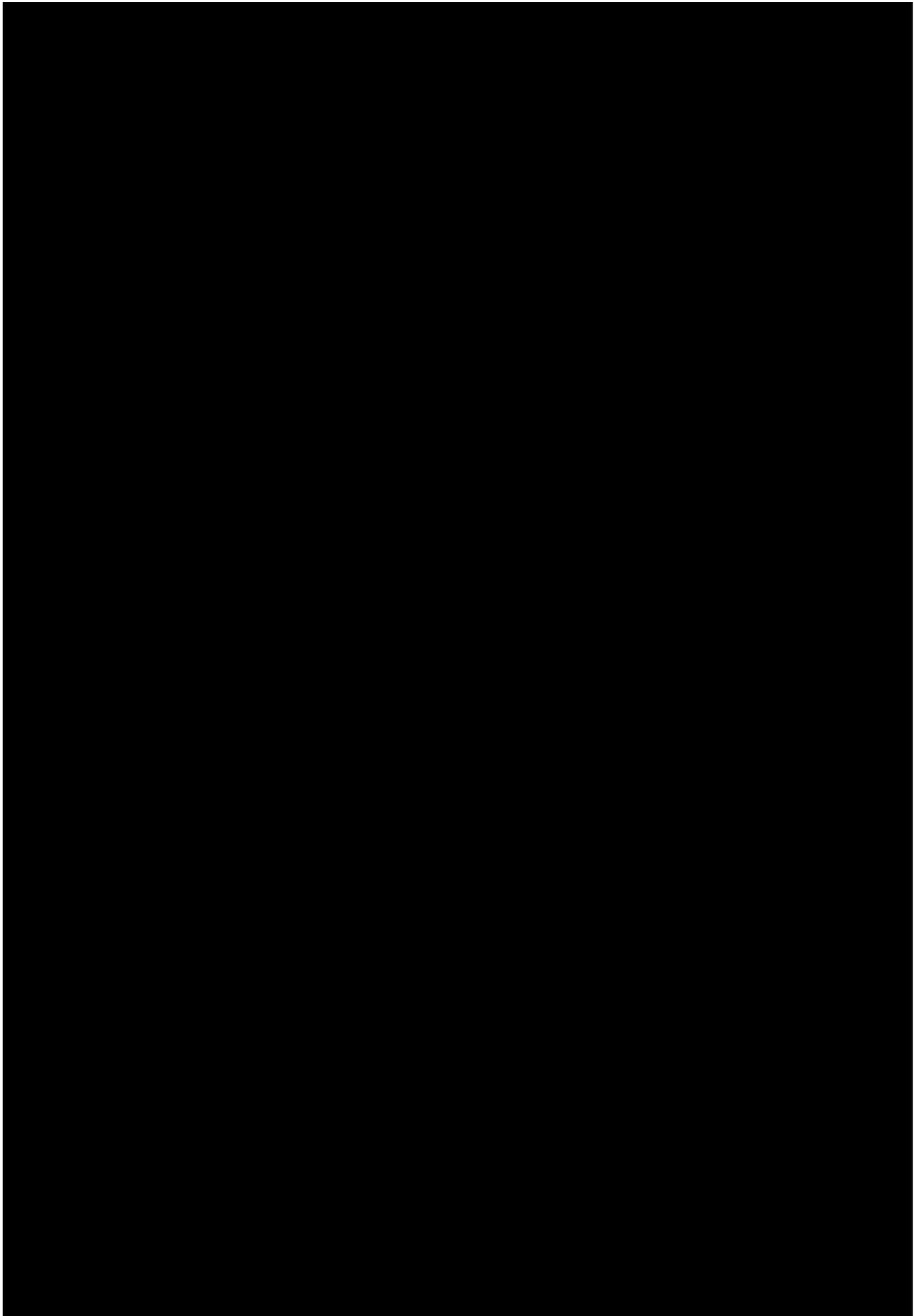
1 and any questions. The sponsor  
2 provided some comments and some  
3 questions.

4 My epidemiology panel and the  
5 other panels took those comments back  
6 and decided, you know, what comments  
7 might be addressed and were worthwhile  
8 addressing and which ones weren't. So  
9 that's not writing the article as far  
10 as I'm concerned.

11 (Acquavella Exhibit 10-30  
12 marked for identification.)

13 QUESTIONS BY MR. MILLER:





22 QUESTIONS BY MR. MILLER:  
23 Q. Let's move on to a different  
24 topic in the time allotted and keep moving.  
25 A part of your job as a

♀  
00298

1 consultant for Monsanto -- strike that.  
2 You're aware, and we've talked  
3 about IARC classification of the epidemiology  
4 in their Volume 112 report on glyphosate and  
5 non-Hodgkin's lymphoma.

6 You've read it, right?  
7 A. I've read the IARC monograph,  
8 yes.

9 Q. Yes, sir.  
10 And you told Donna Farmer that  
11 you really didn't think there was much to  
12 quarrel about concerning the respect to the  
13 epidemiological classification, right?

14 MR. COPLE: Objection. Lacks  
15 foundation.

16 THE WITNESS: Can I see the  
17 document, please?

18 QUESTIONS BY MR. MILLER:

19 Q. Do you remember that without  
20 seeing the document first, that in fact you  
21 told her that?

22 If you don't remember, you  
23 don't remember.

24 MR. COPLE: Objection. Lacks  
25 foundation.

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00299

1 THE WITNESS: Can I see the  
2 document, please?

3 QUESTIONS BY MR. MILLER:

4 Q. I can ask questions first

5 before I show you documents.

6 Do you remember that or not?

7 MR. COPLE: Objection. Lacks  
8 foundation.

9 THE WITNESS: What I remember  
10 about what I communicated to Donna  
11 Farmer about the IARC epidemiology  
12 review is that the IARC definition  
13 that they used for limited evidence,  
14 positive association has been seen,  
15 that the work is considered to be  
16 credible, but the work group can't  
17 rule out bias, chance and confounding.  
18 It's so vague as to be meaningless.  
19 You know, it's like saying there are  
20 some studies done. They might have  
21 every -- ever in the book. But that's  
22 our take on it.

23 And, you know, in the bigger  
24 picture, I consider what the IARC  
25 epidemiology panel concluded not to be

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00300

1 that different than what our panel  
2 concluded: basically that the  
3 evidence does not support a causal  
4 relationship between glyphosate and  
5 non-Hodgkin's lymphoma.

6 QUESTIONS BY MR. MILLER:

7 Q. You think --

8 A. If they thought the evidence  
9 supported a causal relationship with  
10 glyphosate and non-Hodgkin's lymphoma, they  
11 would have said the epidemiology was  
12 sufficient.

13 Q. Dr. Acquavella's opinion that  
14 the IARC panel did not conclude that Roundup  
15 was a probable cause of non-Hodgkin's  
16 lymphoma.

17 Is that your testimony?

18 MR. COPLE: Objection.  
19 Mischaracterizes the IARC panel  
20 report.

21 THE WITNESS: Right.

22 So the panels -- they call them  
23 working groups at IARC. The working  
24 groups at IARC don't actually make a  
25 conclusion like probable, possible, et

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00301

1 cetera. The working groups render a  
2 judgment about what the evidence is.

3 The epidemiology panel said  
4 limited, which means that there are  
5 some studies that show a positive  
6 relationship. It may or may not be  
7 statistically significant. It may or  
8 may not be due to all the different  
9 biases we said. They just basically  
10 say that this was seen by the working  
11 group.

12 And so, I mean, I think the  
13 important thing for me is that, first

14 of all, they did not conclude that the  
15 epidemiology evidence supported a  
16 causal association with glyphosate,  
17 and that was the conclusion of our  
18 work group.

19 Secondly, what I said to you is  
20 that this definition that IARC uses is  
21 so vague that when I've been at IARC  
22 meetings, there's been confusion about  
23 what that definition means. So they  
24 decided it was limited, which means  
25 that the studies could have had lots

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00302

1 of errors, but we're picking the  
2 limited category.

3 So that's what I was trying to  
4 convey to Donna Farmer.

5 QUESTIONS BY MR. MILLER:

6 Q. Yeah, and I know it's what  
7 you're trying to convey to me now, but the  
8 truth is, the IARC working group for volume  
9 112 said it was -- Roundup, glyphosate, was a  
10 probable human carcinogen.

11 That is the truth, isn't it,  
12 Dr. Acquavella?

13 MR. COPLE: Objection.  
14 Argumentative.

15 THE WITNESS: So for lots of  
16 the reasons that I've discussed, you  
17 know, IARC got the evaluation wrong,  
18 seriously wrong.

19 And, of course, glyphosate has  
20 been reviewed many, many times by  
21 regulatory agencies and experts,  
22 including three times since the IARC  
23 meeting. Each of the bodies that  
24 reviewed it came away with the  
25 conclusion that glyphosate is not

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00303

1 likely to be a carcinogen.

2 Now, I mentioned to you that  
3 the individual working groups don't  
4 actually arrive at a classification.  
5 They arrive at a judgment about the  
6 evidence. And that definition of  
7 "limited" is dependent on what's  
8 considered to be credible.

9 And so you have that that's  
10 very difficult to know exactly what  
11 they mean, and you have this issue of  
12 the studies that have all these really  
13 important biases that I've discussed  
14 with you.

15 So I took their overall  
16 conclusion to be the evidence did not  
17 support the conclusion of a causal  
18 relationship between glyphosate and  
19 non-Hodgkin's lymphoma.

20 QUESTIONS BY MR. MILLER:

21 Q. When was the last time you were  
22 media-trained?

23 MR. COPLE: Objection. Lacks  
24 foundation and outside the scope of  
25 the Court's order on general

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00304

1 causation.

2 THE WITNESS: I don't remember  
3 when I did media training during my  
4 employment with Monsanto.

5 QUESTIONS BY MR. MILLER:

6 Q. Part of your media training was  
7 deflect and not answer the question; move to  
8 what you want to talk about.

9 That's one of the keys of this  
10 media training, isn't it, Dr. Acquavella?

11 MR. COPLE: Objection. Outside  
12 the scope of general causation and  
13 argumentative.

14 THE WITNESS: well, you know,  
15 what I tried to learn as a part of  
16 media training was how to communicate  
17 fairly complex epidemiologic issues to  
18 people who don't have a strong science  
19 background. So that's what I was  
20 trying to achieve, you know, when I  
21 did media training.

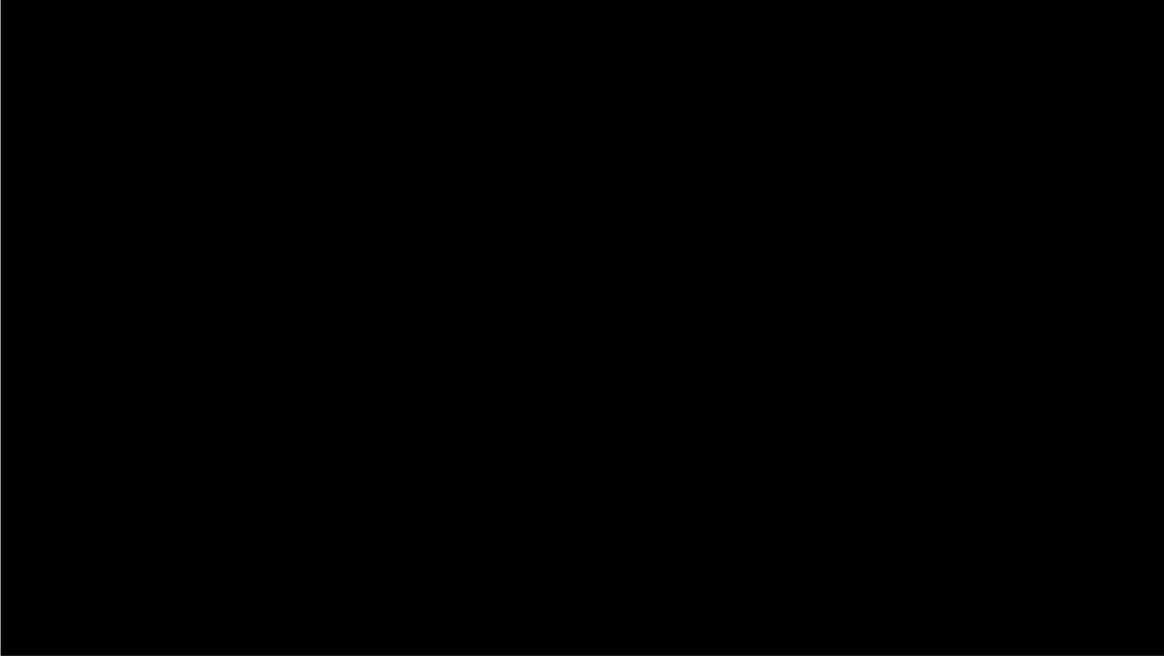
22 And, you know, I get the  
23 opportunity in my job to -- in my  
24 professorship and in some of my  
25 consulting arrangements to speak with

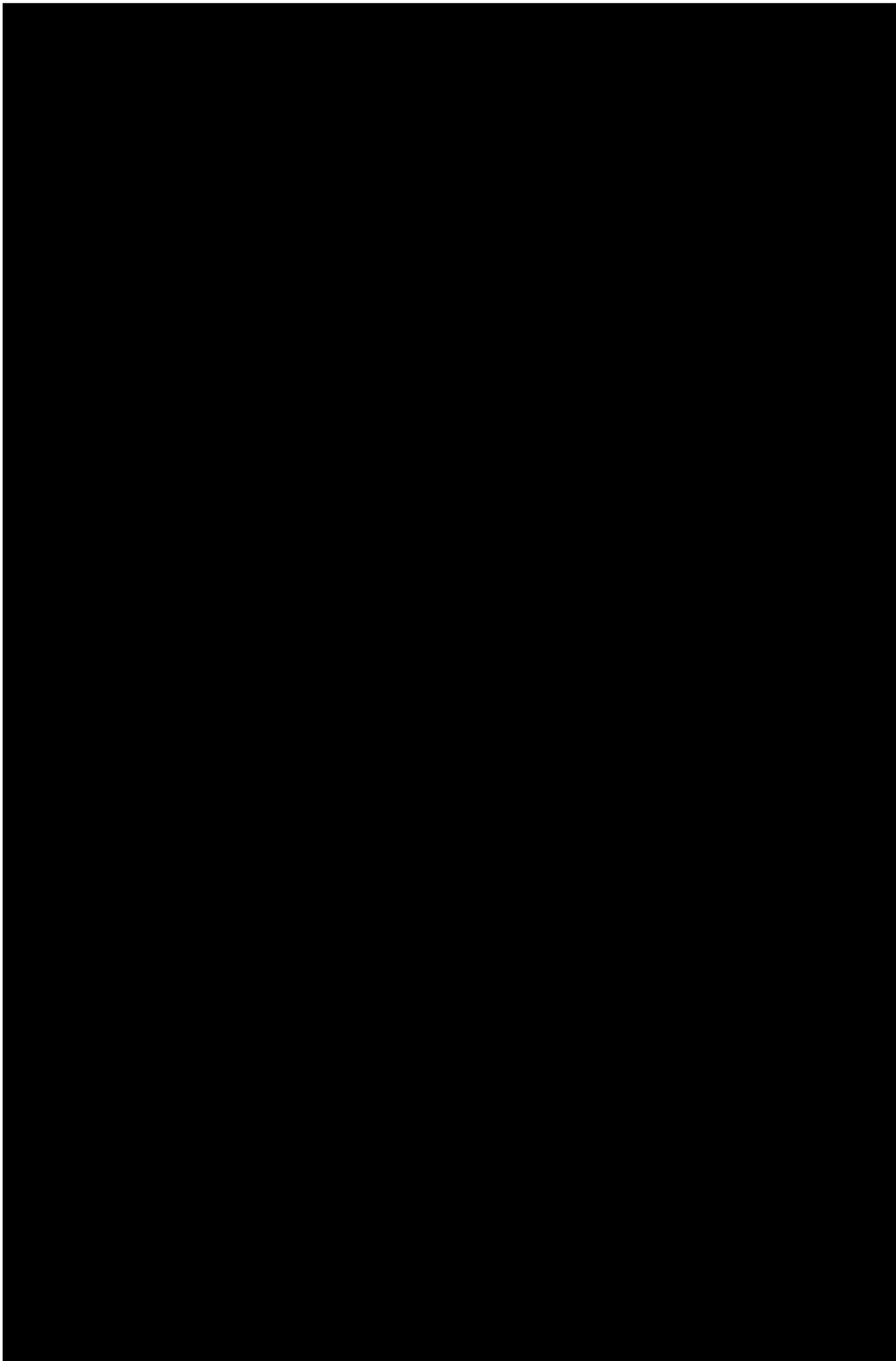
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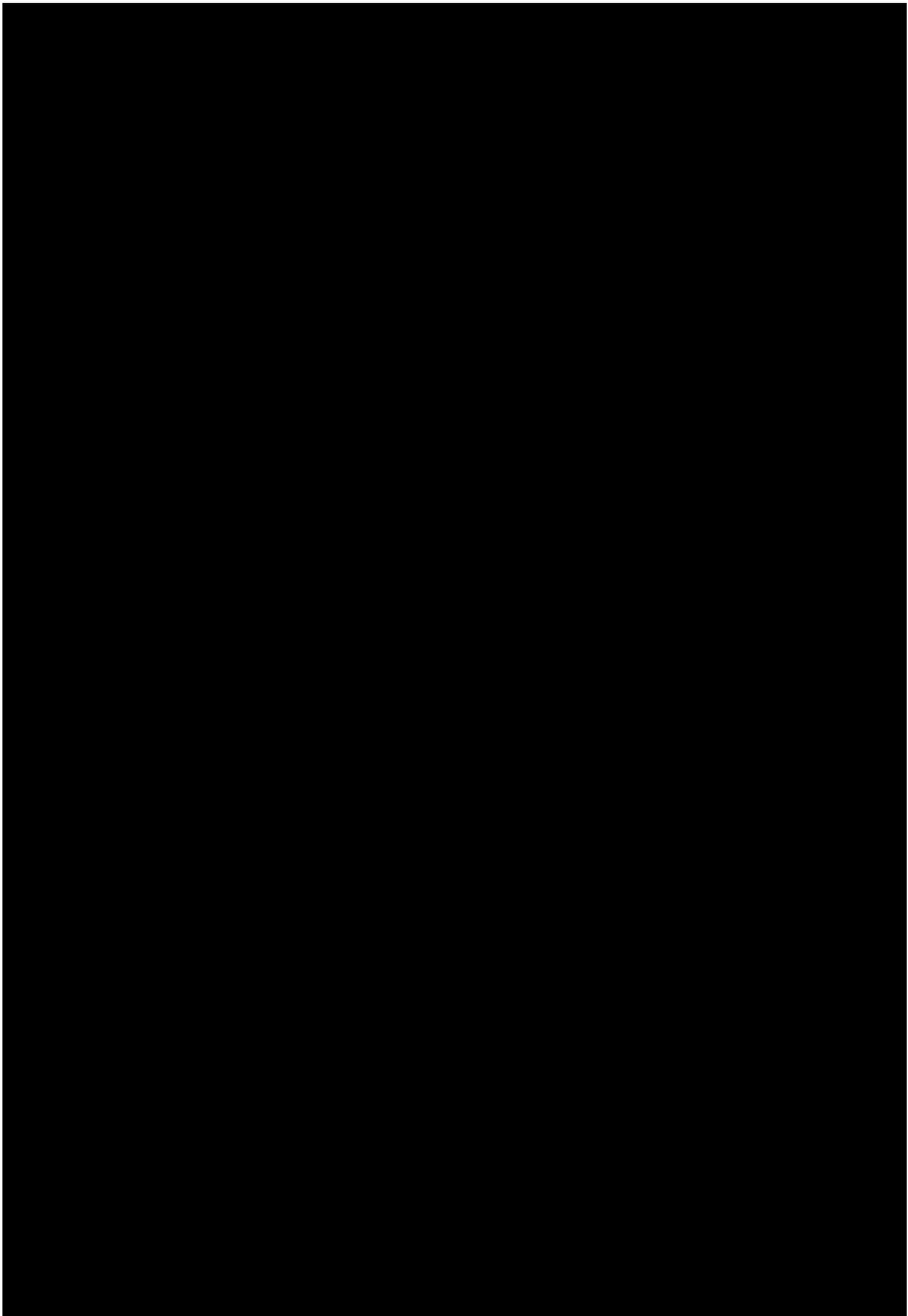
1 people who have multiple disciplines,  
2 and I work very hard to try to  
3 communicate the ins and outs of  
4 epidemiology in a way that people can  
5 understand given their different  
6 technical backgrounds.

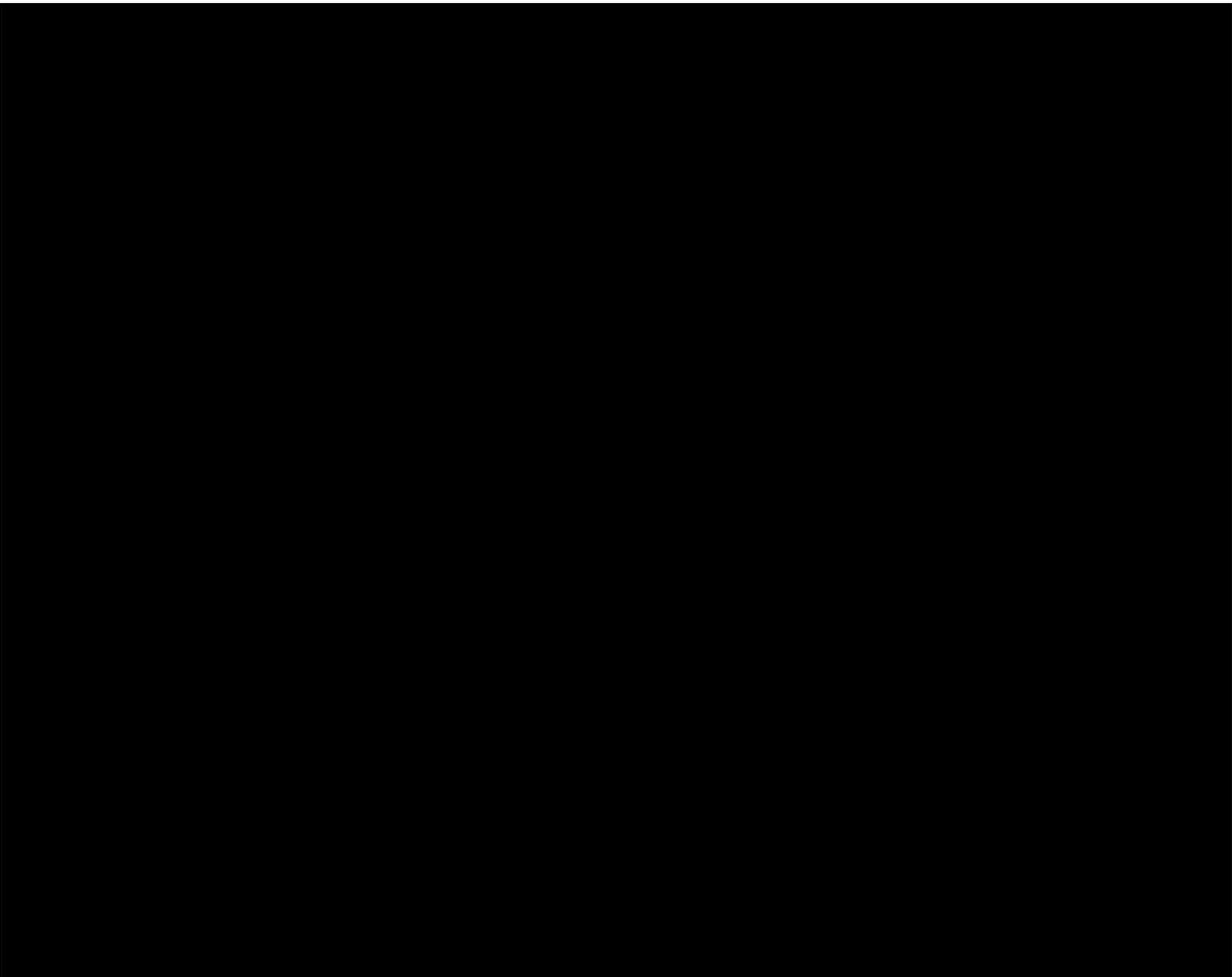
7 (Acquavella Exhibit 10-32  
8 marked for identification.)

9 QUESTIONS BY MR. MILLER:









4 QUESTIONS BY MR. MILLER:  
5 Q. Let's go to something you and I  
6 can agree on. Let's try.

7 AHS study. Before it came out,  
8 before the results were known of the 2005  
9 cohort known as the De Roos 2005, you know  
10 what I'm talking about, right, that study?

11 MR. COPLE: Objection. Lacks  
12 foundation.

13 THE WITNESS: Well, De Roos  
14 2005 is one of the studies that was  
15 published about the people who were  
16 enrolled in the Agricultural Health  
17 Study.

18 QUESTIONS BY MR. MILLER:

19 Q. Yes, sir.  
20 And prior to those results  
21 being published, way back in 1997 you had  
22 strong criticisms about whatever results were  
23 going to come out of AHS, didn't you?

24 MR. COPLE: Objection. Lacks  
25 foundation.

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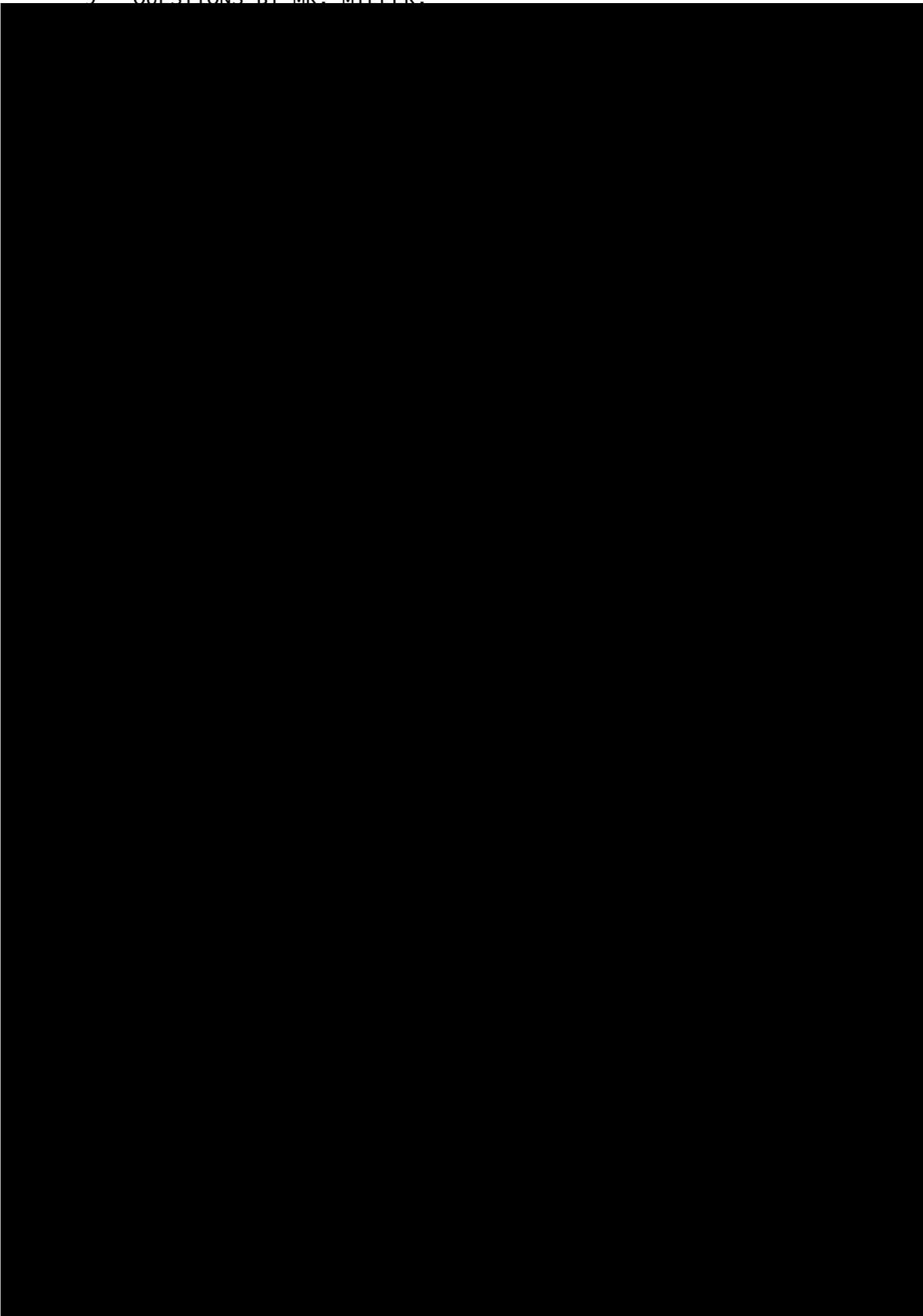
1 THE WITNESS: Do you have a  
2 document that I can look at --

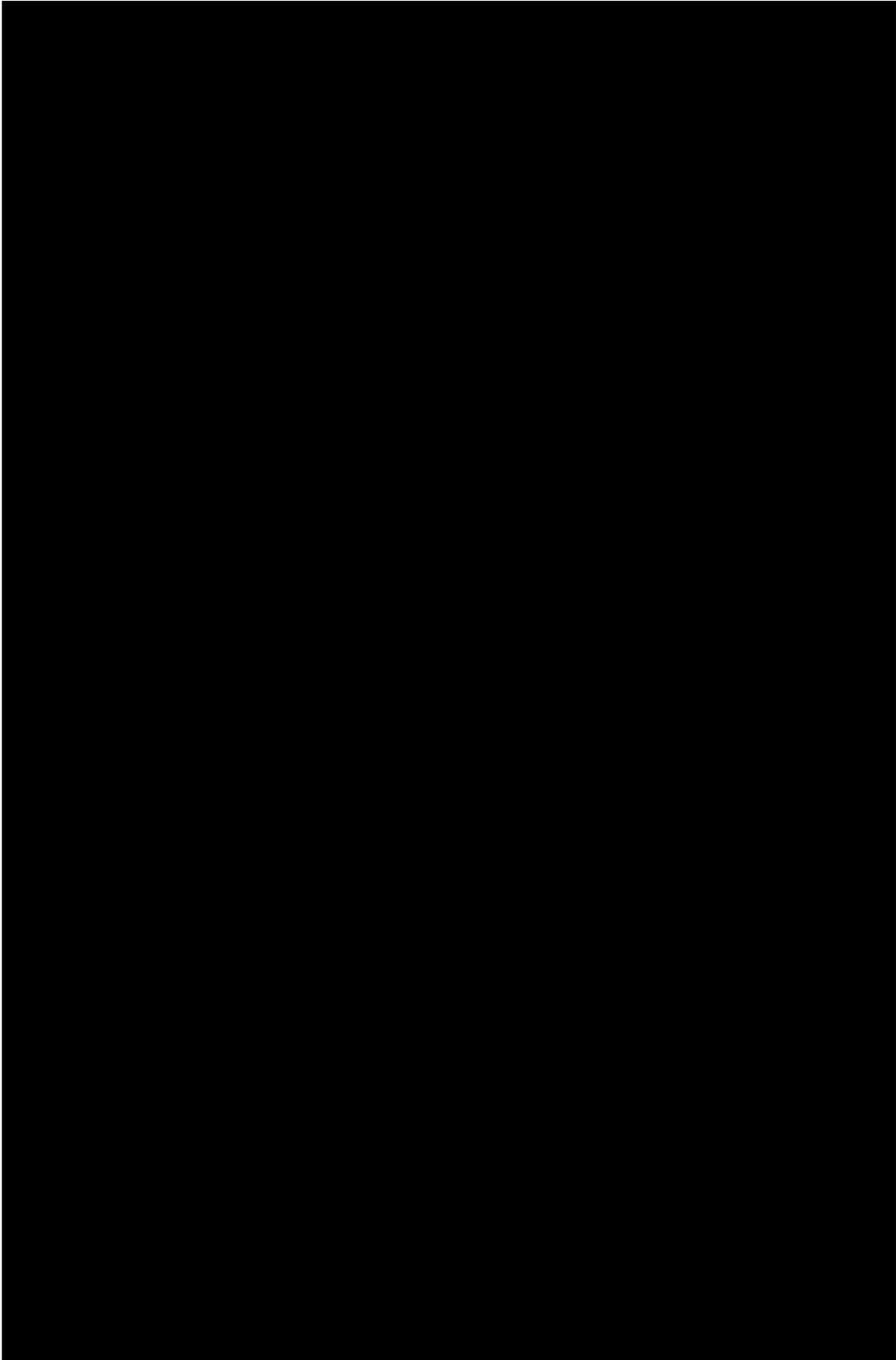
3 QUESTIONS BY MR. MILLER:

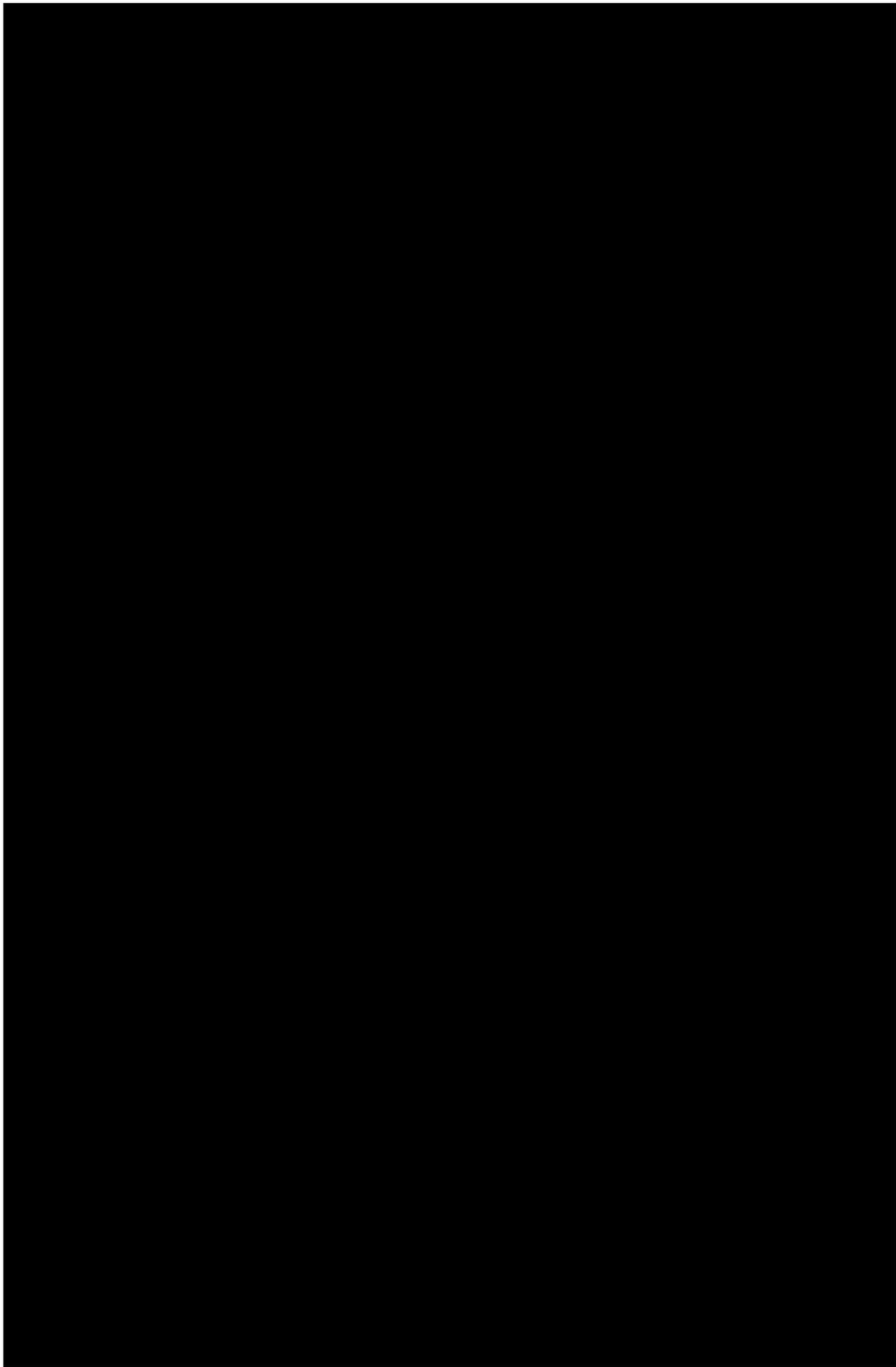
4 Q. I certainly do, Doctor.

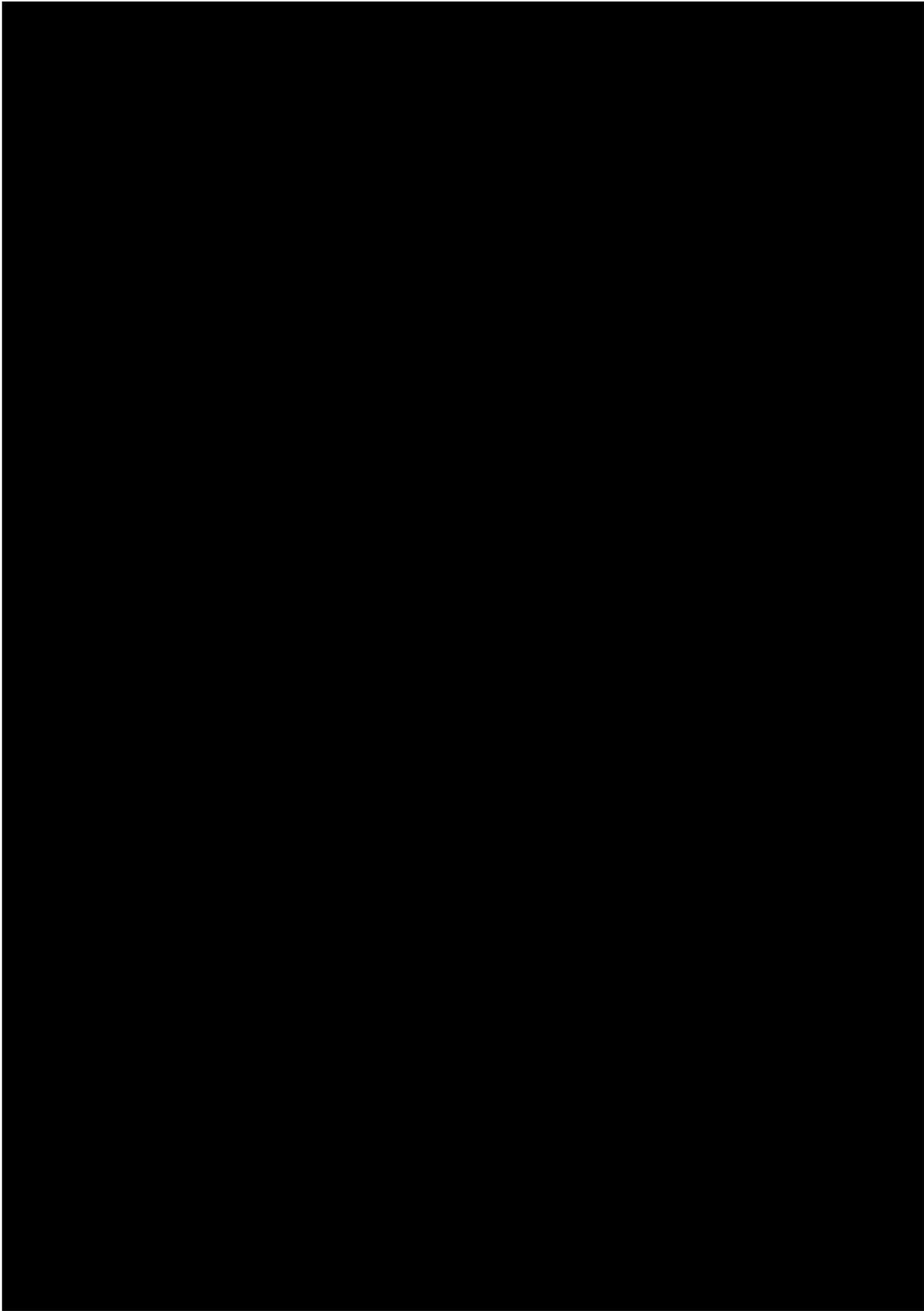
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5 A. Okay.  
6 Q. I certainly do.  
7 (Acquavella Exhibit 10-33  
8 marked for identification.)  
9 QUESTIONS BY MR. MILLER:









14 Q. Doctor, have you been involved  
15 in requesting the underlying data from the  
16 AHS study or the NAP study or any other study  
17 on behalf of Monsanto as a consultant?

18 MR. COPLE: Objection. Lacks  
19 foundation.

20 THE WITNESS: Well, a number of  
21 times I've encouraged Monsanto to try  
22 to work out a data sharing agreement  
23 with the NIH so that an independent  
24 academic group could do analyses of  
25 the data.

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00323

1 I had an experience with the  
2 multiple myeloma findings in the  
3 De Roos, et al., 2005 paper where  
4 something just looked wrong in the  
5 difference between the initial  
6 adjusted relative risk for multiple  
7 myeloma, which was 1.1, and the fully  
8 adjusted relative risk for multiple  
9 myeloma, which was 2.6.

10 And so we wrote a letter to the  
11 editor and we asked about it. We  
12 asked if they would look into why that  
13 happened, because to us it didn't seem  
14 like it would be related to  
15 confounding. We thought there was  
16 something else structural about that.

17 So they responded to our letter  
18 to the editor, but they didn't provide  
19 the information that we asked for.

20 Monsanto subsequently requested  
21 that data through Freedom of  
22 Information, and Tom Sorahan analyzed  
23 that data. And what turned out to be  
24 the case in that analysis, which they  
25 could have resolved immediately after

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00324

1 our letter to the editor, was that by  
2 requiring full covariant data, you  
3 basically excluded all of the multiple  
4 myeloma cases who were in the  
5 unexposed group.

6 So it was something that could  
7 have been resolved with a few analyses  
8 that they would have done if they were  
9 responding to our letter to the  
10 editor, that I would have done were I  
11 in their situation, and it took about  
12 eight years to resolve that. It's a  
13 very important finding in the  
14 literature.

15 So I do think, you know, they  
16 have their priorities, they decide  
17 what they want to do. But I do think  
18 it's important that, you know, some  
19 other people have access to the data.

20 NIH has a data-sharing policy  
21 that stipulates that data that's paid  
22 for by taxpayers, after a certain

23 amount of time -- because you want to  
24 allow the investigators the chance to  
25 do their analysis -- should be made

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00325

1 available to the academic community.  
2 So I feel strongly about that.  
3 I have advised that, you know,  
4 one other contribution to the science  
5 could be to request a data-sharing  
6 arrangement and have some academic  
7 scientists do analyses that, you know,  
8 address key issues that, you know, are  
9 in the literature that maybe aren't on  
10 the priority list for the Agricultural  
11 Health Study.

12 QUESTIONS BY MR. MILLER:

13 Q. But Tom Sorahan's a paid  
14 consultant for Monsanto. You're a paid  
15 consultant for Monsanto. Those are the two  
16 people you want to look at the data, not  
17 independent academic scientists.

18 A. Well, Tom Sorahan --  
19 MR. COPLE: Objection.  
20 Argumentative.

21 THE WITNESS: Tom Sorahan was  
22 the one who actually did the analysis.

23 QUESTIONS BY MR. MILLER:

24 Q. And he's a paid consultant for  
25 Monsanto.

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00326

1 A. Okay, but --  
2 MR. COPLE: Objection.  
3 Argumentative.

4 THE WITNESS: Paid consultant  
5 or not, the results of the analysis  
6 that he did have been judged by people  
7 who have done reviews recently to be  
8 valid.

9 And as I said before, you know,  
10 these labels that you use to discredit  
11 individuals, they have nothing to do  
12 with the quality of the science that  
13 the individuals did.

14 In this case, I wasn't talking  
15 about Tom Sorahan. What I would like  
16 to see is some of the leaders in the  
17 field of epidemiology who have an  
18 interest in occupational and  
19 environmental epidemiology, who have  
20 an arrangement to use the data and to  
21 pursue analyses as they see fit and to  
22 publish results as they see fit.  
23 That's what I've recommended before.

24 QUESTIONS BY MR. MILLER:

25 Q. Have you seen any data from

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1 these FOIA requests for the AHS data or the  
2 NAP data?

3 Have you actually seen  
4 underlying data? Have they gotten it yet?

5 MR. COPLE: Objection. Lacks  
6 foundation.

7 THE WITNESS: So I didn't see  
8 the data that Tom Sorahan got.

9 QUESTIONS BY MR. MILLER:  
10 Q. I'm not talking about multiple  
11 myeloma. I'm talking about non-Hodgkin's  
12 lymphoma data.

13 MR. COPLE: Objection. Lacks  
14 foundation.

15 THE WITNESS: So I don't know  
16 whether that's progressing or how it's  
17 progressing. I just state my opinion  
18 that from a scientific perspective, I  
19 think it's appropriate and good to  
20 have that data available and have  
21 other people working with it.

22 QUESTIONS BY MR. MILLER:  
23 Q. Let's move to one other topic.  
24 You left a CD of electronic  
25 files with Donna Farmer when you left

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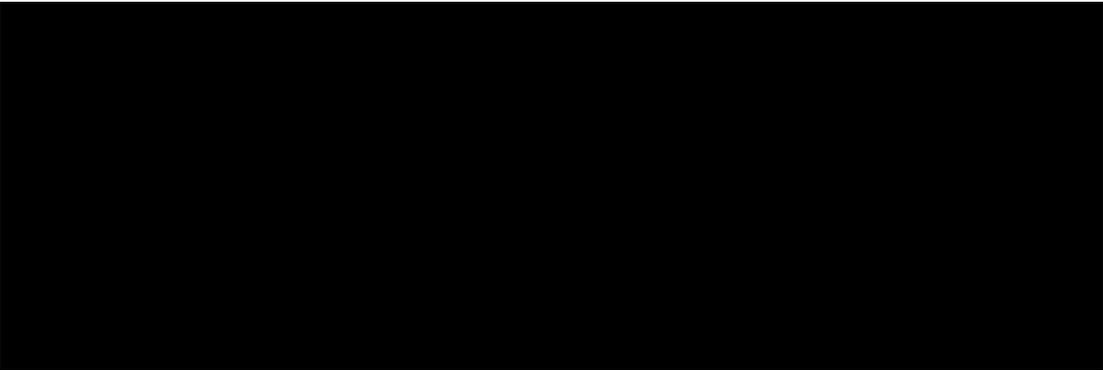
1 Monsanto in 2004, right?

2 MR. COPLE: Objection. Lacks  
3 foundation.

4 THE WITNESS: I left a CD, and  
5 what I tried to do with the CD is to  
6 make documents available to Donna that  
7 kind of chronicled the work I had done  
8 over the years on agricultural  
9 pesticides, glyphosate, alcor,  
10 trioleate, other things like that, so  
11 that everything that I worked on that  
12 I thought they would want to have  
13 quick access to, Donna would have  
14 access to it.

15 (Acquavella Exhibit 10-34  
16 marked for identification.)

17 QUESTIONS BY MR. MILLER:



5 MR. MILLER: Well, I'll explain  
6 that I am done asking questions now,  
7 with the clear understanding that I  
8 think I haven't really gotten my fair  
9 time because the witness has spent too  
10 much time looking at the documents.  
11 The witness has spent too much time  
12 with long-winded answers that have  
13 nothing to do with the questions.

14 I don't think seven hours is  
15 reasonable in any event, and I thought  
16 there was an understanding of two days  
17 here.

18 I reserve the right to redepose  
19 Dr. Acquavella if he's named an  
20 expert. I reserve the right to  
21 redepose Dr. Acquavella on other  
22 issues after general causation, and I  
23 reserve to depose Dr. Acquavella in  
24 the state litigation.

25 That said, your witness.

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00330

1 MR. COPLE: Monsanto opposes  
2 all of the characterizations that  
3 counsel just made, and Monsanto will  
4 oppose any move to redepose  
5 Dr. Acquavella. It's 5:30.

6 MR. MILLER: And we all go home  
7 now, or are you going to be asking  
8 questions?

9 MR. COPLE: We'll resume in the  
10 morning.

11 MR. MILLER: What time do you  
12 want to get together?

13 MR. COPLE: Whatever time you  
14 want. We can start earlier if you  
15 want. We can start at the regular  
16 time, nine o'clock.

17 MR. MILLER: It's up to the  
18 witness.

19 Dr. Acquavella, what's --

20 MR. COPLE: Well, we'll work it  
21 out with the -- then it will nine  
22 o'clock unless you have a preference.

23 MR. MILLER: All right. I'll  
24 assume --

25 MR. COPLE: Nine o'clock.

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00331

1 MR. MILLER: That's very kind  
2 of you to ask. Thank you. Thanks a  
3 lot.

4 VIDEOGRAPHER: We're going off  
5 record. The time is 5:30. This ends  
6 Media 5.

7 (Off the record at 5:30 p.m.)  
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CERTIFICATE

I, CARRIE A. CAMPBELL, Registered Diplomat Reporter, Certified Realtime Reporter and Certified Shorthand Reporter, do hereby certify that prior to the commencement of the examination, John Acquavella, Ph.D. was duly sworn by me to testify to the truth, the whole truth and nothing but the truth.

I DO FURTHER CERTIFY that the foregoing is a verbatim transcript of the testimony as taken stenographically by and before me at the time, place and on the date hereinbefore set forth, to the best of my ability.

I DO FURTHER CERTIFY that I am neither a relative nor employee nor attorney nor counsel of any of the parties to this action, and that I am neither a relative nor employee of such attorney or counsel, and that I am not financially interested in the action.

\_\_\_\_\_  
CARRIE A. CAMPBELL,  
NCRA Registered Diplomat Reporter  
Certified Realtime Reporter  
California Certified Shorthand  
Reporter #13921  
Missouri Certified Court Reporter #859  
Illinois Certified Shorthand Reporter  
#084-004229  
Texas Certified Shorthand Reporter #9328  
Kansas Certified Court Reporter #1715  
Notary Public  
Dated: April 13, 2017

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INSTRUCTIONS TO WITNESS

Please read your deposition over carefully and make any necessary corrections. You should state the reason in the appropriate space on the errata sheet for any corrections that are made.

After doing so, please sign the errata sheet and date it. You are signing same subject to the changes you have noted on the errata sheet, which will be attached to your deposition.

It is imperative that you return the original errata sheet to the deposing attorney within thirty (30) days of receipt

16 of the deposition transcript by you. If you  
17 fail to do so, the deposition transcript may  
18 be deemed to be accurate and may be used in  
19 court.  
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1  
2 ACKNOWLEDGMENT OF DEPONENT  
3  
4 I, \_\_\_\_\_, do  
5 hereby certify that I have read the  
6 foregoing pages, and that the same is  
7 a correct transcription of the answers  
8 given by me to the questions therein  
9 propounded, except for the corrections or  
10 changes in form or substance, if any,  
11 noted in the attached Errata Sheet.  
12  
13  
14

15 \_\_\_\_\_ DATE  
16 JOHN ACQUAVELLA, Ph.D.

17 Subscribed and sworn  
18 to before me this  
19 \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.  
20 My commission expires: \_\_\_\_\_  
21

22 Notary Public  
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