Transcript of W. Christopher Bakewell

Date: October 3, 2024
Case: BioNTech SE and Pfizer, Inc. -v- Moderna TX, Inc. (PTAB)

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Moderna 2255
BioNTech-Pfizer v. Moderna
IPR2023-01359

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BIONTECH SE AND PFIZER INC.,
Petitioners

vs

MODERNA TX, INC.,
Patent Owner

Case IPR2023-01358
U.S. Patent No. 10,702,600
and
Case IPR2023-01359
U.S. Patent No. 10,933,127

Oral deposition of

W. CHRISTOPHER BAKEWELL

WASHINGTON, DC

THURSDAY, OCTOBER 3, 2024

9:05 a.m. EASTERN TIME

Job No.: 555072

Pages: 1 - 132

Reported by: Lisa V. Feissner, RDR, CRR, CLR

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Oral deposition of W. CHRISTOPHER BAKEWELL, held at the offices of:

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Pursuant to Notice, before Lisa V. Feissner, RDR, CRR, CLR, Notary Public.

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JAKE MOORE, ESQ., Moderna (via Zoom)

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C O N T E N T S

EXAMINATION OF W. CHRISTOPHER BAKEWELL PAGE
By Ms. Curtis 6

E X H I B I T S
(Attached to transcript)

DEPOSITION EXHIBIT PAGE
(None marked.)

P R E V I O U S L Y
M A R K E D E X H I B I T S
(Referenced)

EXHIBITS PAGE
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P R O C E E D I N G S
W. CHRISTOPHER BAKEWELL,
having been first duly sworn, was examined and testified as follows:
EXAMINATION
BY MS. CURTIS:
Q Sir, why don't you go ahead and introduce yourself for the record.
A Sure. My name is Chris Bakewell.
Q And where do you live?
A I live in Texas.
Q You've been deposed before?
A I have.
Q About how many times?
A I haven't counted. I don't know. It's a lot.
Q Hundreds?
A Probably.
Q Yeah. When was your last deposition?
A Maybe a few weeks ago.
Q And you understand that you have to tell the truth today?

7

A Agreed.
Q And you will tell the truth today?
A Yes.
Q Is there any reason why your ability to testify today is not as good as it normally is?
A No.
Q Okay. What did you do to prepare for your deposition?
A So I get asked that question a lot. I mean, I wrote a report. I reviewed Mr. Malackowski's report. I reviewed his deposition. And there's a process leading up to this. That's kind of how I view it.
Q Did you meet with anyone to prepare?
A Sure.
Q Did you meet with your counsel?
A My counsel?
Q Did you meet with counsel for Pfizer and BioNTech?
A I did.
Q Did you meet with anyone other than counsel?

8

A One of my colleagues who I've worked with, I met with her throughout the project.
Q What's her name?
A Julia Rowe.
Q And what's Julie's role in this project?
A She's a colleague.
Q And did she help you do research? Did she do drafting?
A Well, she helped me with the report in general. I've worked with her for a long time, and we work together. And she helped me with some tasks that relate to preparing this report.
Q What tasks did she do versus what you did?
A Well, to be clear, I think as I wrote in my report, she worked under my direction and supervision. So she helped me do the work that was required to get this report done as somebody who -- like a professional person who I've worked with for a long time, as I'd expect them to.
Q Aside from Ms. Rowe or Dr. Rowe, I don't know which, is there anyone else at CRA that has

9

1 worked with you on this?
2 **A Yes.**
3 Q Who else has worked with you?
4 **A A person named Laura Campbell.**
5 Q What was Laura Campbell's role in this
6 project?
7 **A She's another professional person. I**
8 **think that her title is associate principal. And**
9 **she worked with me to do some tasks that I asked her**
10 **to do, some research and things like that.**
11 Q Anybody aside from Julia and Laura work
12 with you on this?
13 **A There were probably a couple others here**
14 **and there, but that's kind of the main group of**
15 **people.**
16 Q And did you -- how many times did you
17 meet with counsel in preparation for your
18 deposition?
19 **A I mean, there's a process that occurs**
20 **over a long period of time. I don't know that I can**
21 **count, like, to answer the question the way I did**
22 **earlier. I don't really view it that way.**

10

1 **But over the last -- I'd say I got here**
2 **to D.C. a couple days ago and spent a couple hours**
3 **each day.**
4 Q Did you meet here in the Williams &
5 Connolly offices?
6 **A Yes.**
7 Q Aside from counsel, did anyone attend
8 those meetings?
9 **A Ms. Rowe was here.**
10 Q Apart from your meetings with counsel,
11 did you meet with anyone other -- did you meet with
12 anyone other than counsel to prepare for your
13 deposition today?
14 **A Well, as I said, the process occurred**
15 **over a while, and I worked together with Ms. Rowe**
16 **and Ms. Campbell over time. I think we've covered**
17 **it all.**
18 Q So let me ask you this. Between the time
19 when you submitted your report and the deposition
20 today, how many times have you met in preparation
21 for this deposition?
22 MR. MESTITZ: Objection, form.

11

1 **A Can you re-ask the question? I must have**
2 **missed a word.**
3 Q Between the time when you submitted your
4 report, declaration, and the deposition today, how
5 many times did you meet with counsel to prepare for
6 the deposition?
7 **A Really, the meetings that happened, if**
8 **we're going to talk about those, happened over the**
9 **last couple days.**
10 Q Okay. So you had two meetings between
11 the submission of your report and the deposition
12 today.
13 Is that fair?
14 **A Yeah, in the way we've sort of framed it,**
15 **yes.**
16 Q Okay. Is there some other type of
17 meeting you're thinking of that is preventing you
18 from just answering the question?
19 **A Well, I am answering your question. I**
20 **don't mean to fuss with you going back and forth. I**
21 **just want to be clear about it.**
22 **Like -- and I'll give you something that**

12

1 **comes to mind. Mr. Malackowski was deposed and,**
2 **like, I can't go get the deposition from some**
3 **website. I have to get it. So there's some**
4 **logistical things. If you want to call those**
5 **meetings, I'm not sure how to count those.**
6 **So I'm trying to focus in on a question**
7 **that I can answer with some specificity when I'm**
8 **responding to you. That's why I'm giving you sort**
9 **of the qualifiers as I'm trying to be as specific as**
10 **I can.**
11 Q Yeah, and I appreciate that. I'm just
12 trying to figure out sort of what you did.
13 **A Sure.**
14 Q And so aside from meetings where you were
15 in a room or on a phone call with counsel, you did
16 other things to prepare for the deposition. That's
17 what I'm hearing.
18 Is that correct?
19 **A If you define preparing for the**
20 **deposition as, like, all the time leading up to the**
21 **deposition, of course.**
22 Q So what else did you do to prepare for

13

1 the deposition?
2 **A Well, I gave you an example. If we take**
3 **a broader view, I reviewed Mr. Malackowski's**
4 **deposition transcript. That would be an example.**
5 **His report.**
6 Q Aside from Mr. Malackowski's deposition
7 transcript, did you review any additional documents
8 not cited in your declaration to prepare for your
9 deposition today?
10 **A Not cited. I'm trying to think of a way**
11 **to answer that with some absolute certainty. It**
12 **doesn't seem like it. I don't know if that's**
13 **possible for me to answer with absolute certainty**
14 **because mind is, like, I'm a human being.**
15 **But the focus of the work that I did**
16 **related to the materials that are in my deposition.**
17 Q In your declaration?
18 **A Excuse me. In my report.**
19 Q And did you review any documents,
20 including documents that may be cited in your
21 declaration, in preparation for the deposition
22 today?

14

1 **A Yes.**
2 Q What documents did you review?
3 **A I think at some point I took a look at**
4 **the materials -- all the materials I cited.**
5 **Probably the materials that Mr. Malackowski cited by**
6 **reference. That's kind of practically the types of**
7 **materials I reviewed.**
8 Q You're retained on behalf of BioNTech SE,
9 BioNTech Manufacturing GmbH, BioNTech U.S. Inc., and
10 Pfizer Inc., right?
11 **A I think so. You're asking me about my**
12 **report now?**
13 Q Well, I'm asking you who retained you.
14 But if you want a reference, it's in paragraph 8 of
15 your declaration.
16 **A I have my report, so that would be where**
17 **I would check.**
18 Q Well, I would expect you to know who
19 retained you. But I understand if you want to
20 check.
21 **A Well, I know generally, but I don't know**
22 **the legal entities that you read. I don't know that**

15

1 **anybody could remember that.**
2 **So it sounds like you read that**
3 **correctly.**
4 Q Okay. So I just want to make sure the
5 record is clear.
6 You're retained on behalf of BioNTech SE,
7 BioNTech Manufacturing GmbH, BioNTech U.S. Inc. and
8 Pfizer Inc. Yes?
9 **A Yes, those are the entities listed.**
10 Q You're also retained by BioNTech and
11 Pfizer in connection with a District Court
12 litigation against Moderna, right?
13 **A I am. My firm is. That's correct.**
14 Q Aside from these IPRs and the District
15 Court litigation, have you done any work for any
16 BioNTech entity previously?
17 **A I don't think so.**
18 Q Have you done any work with any Pfizer
19 entity previously?
20 **A It's possible, but I can't think of**
21 **anything specific.**
22 Q When were you first contacted to work on

16

1 this matter?
2 MR. MESTITZ: Objection to form.
3 **A Hmm. It's been some time now. Let me**
4 **see if there's something that can refresh my memory.**
5 **I feel like this matter has been going**
6 **on -- when you say "this matter," you mean this**
7 **particular matter? You mentioned the District**
8 **Court.**
9 Q Well, let me ask you a prefatory question
10 first.
11 **A Sure.**
12 Q Is your retention covering -- strike
13 that.
14 Do you have a single retention agreement
15 that covers the District Court litigation and these
16 IPRs?
17 **A I think there's a single retention**
18 **agreement, yes.**
19 Q Okay. When were you first contacted
20 regarding the IPRs in particular?
21 **A It's been some time. I'd need some -- to**
22 **give you some specifics as to the date, maybe if I**

17

1 **could remind myself when the IPRs were instituted or**
2 **something like that. It's been some time.**
3 Q Okay. But you expect it was around the
4 time the IPRs were instituted?
5 **A That's not exactly what I said. I said**
6 **that might remind me. I'm just trying to remember**
7 **what the dates might be.**
8 Q Okay. Do you recall when you were first
9 contacted in connection with the District Court
10 litigation?
11 **A It's been some time.**
12 Q So you work for Charles River Associates?
13 **A I do.**
14 Q And correct me if I'm wrong, but that's a
15 change from when you were first retained.
16 Is that right?
17 **A That's correct.**
18 Q And you previously worked for Kroll?
19 **A That's right.**
20 Q Is the retention agreement that you have
21 between Charles River Associates, Paul Hastings, and
22 Williams & Connolly?

18

1 **A I think the answer is yes. I may have**
2 **missed a word. Can you re-ask it?**
3 Q Is the retention agreement for this
4 matter between Charles River Associates, Paul
5 Hastings, and Williams & Connolly?
6 **A I believe that would be a fair way to**
7 **characterize it, yes.**
8 Q Charles River Associates is
9 compensated --
10 **A Well, I think in the agreement, it's --**
11 **just to be more specific, like, the way that it's**
12 **written in the report, it's even more specific. But**
13 **I think generally, you're correct.**
14 Q Charles River Associates is being
15 compensated at $950 an hour for your work on this
16 matter.
17 Is that right?
18 **A Yes.**
19 Q About how many hours have you spent
20 working on these IPRs?
21 **A Normally, I'd have a better estimate for**
22 **you, but because I've changed firms and our systems**

19

1 **are a little less familiar to me, I can't give you a**
2 **super specific answer. But I would say over a**
3 **hundred hours.**
4 Q Approximately how many hours has Ms. Rowe
5 worked on this matter?
6 **A I don't know.**
7 Q And how about Ms. Campbell?
8 **A I can't give you that with specificity, I**
9 **think, as I'm getting familiar with our systems and**
10 **reporting.**
11 Q Okay. Do you think they've spent more
12 time than you or less time?
13 **A That, I'm not certain, actually. Maybe a**
14 **little more. But I can't tell you for sure.**
15 Q Approximately how many hours has CRA
16 billed to Pfizer and BioNTech or their firms?
17 **A Did you say "for their firms"?**
18 Q Or their firms. I don't know if you're
19 billing Paul Hastings, Williams & Connolly, or
20 Pfizer.
21 **A I don't know.**
22 Q Do you know if all of your time spent on

20

1 the matter has been billed?
2 **A Through the last billing period, I'm**
3 **certain that it has.**
4 Q Approximately how much has CRA been paid
5 for its work on this matter?
6 **A I haven't reviewed that. I don't know.**
7 Q And what's Ms. Rowe's rate?
8 **A I'd have to check on this particular**
9 **matter. Let's -- I'll give you a range of between**
10 **750 and $850 per hour.**
11 Q What's Ms. Campbell's rate?
12 **A Probably directionally, $500 per hour.**
13 Q Aside from Ms. Rowe and Ms. Campbell,
14 have you discussed your work on this case with
15 anyone else at CRA?
16 MR. MESTITZ: Objection to form.
17 **A Not that really comes to mind.**
18 Q And aside from counsel and your
19 colleagues at CRA, have you talked to anyone else
20 about your work in this matter?
21 MR. MESTITZ: Objection to form.
22 **A I think -- I think that may cover it, if**

21

1 **I understand your question correctly.**
2 Q Okay. Now, you submitted a declaration
3 in this matter. Yes?
4 **A I did.**
5 Q And you have that declaration in front of
6 you?
7 **A I do. I mean, we can use -- I don't know**
8 **if you have one or --**
9 Q If it's an unadulterated copy, which I
10 understand that it is, you're fine to keep that one.
11 MS. CURTIS: I assume you guys also have
12 them, but I've got a copy if you would like it.
13 (Previously marked Exhibit 1163 presented
14 to the witness.)
15 BY MS. CURTIS:
16 Q So your declaration is Exhibit 1163,
17 correct?
18 **A I see that, yes.**
19 Q So Exhibit 1163 is a copy of your
20 declaration regarding commercial success, correct?
21 **A Yes.**
22 Q Okay if we just call this your

22

1 declaration?
2 **A Sure.**
3 Q Okay. Your declaration was submitted in
4 IPR 2023-01358, correct?
5 **A Yes.**
6 Q Your declaration was also submitted in
7 IPR 2023-01359, correct?
8 **A Yes.**
9 Q IPR 2023-01358 challenges U.S. Patent
10 10,702,600, correct?
11 **A That's my understanding, yes.**
12 Q Is it okay if we call that the '600
13 patent today?
14 **A Yes.**
15 Q Okay. And IPR 2023-01359 challenges U.S.
16 Patent 10,933,127, correct?
17 **A Yes.**
18 Q Okay if we call that the '127 patent?
19 **A Let's do it.**
20 Q Okay. You signed your declaration, yeah?
21 **A I did.**
22 Q It's dated August 30th, 2024, correct?

23

1 **A Correct.**
2 Q Sitting here today, are you aware of any
3 errors in your declaration?
4 **A Not anything material. Maybe I saw a few**
5 **typos and such. But I didn't see anything material.**
6 Q And you fully stand by every opinion you
7 offered in your declaration?
8 **A I do.**
9 Q How did you prepare your declaration?
10 MR. MESTITZ: Objection to form.
11 **A I used MS Word.**
12 Q Sat down at your computer and just
13 started typing?
14 **A At some level, I think that's what I did.**
15 **I mean, super high level. I think if you even step**
16 **back further, like, I used this framework to think**
17 **about that. If I were to understand or define my**
18 **assignment, I gather materials, I analyze them, and**
19 **then I write. And it's an iterative process.**
20 **But ultimately, I issued a report that I**
21 **wrote. So it depends kind of at the level of**
22 **abstraction that you try to address that question.**

24

1 Q Okay. You mentioned you used a framework
2 to think about the assignment. What's the
3 framework?
4 **A So I wrote about that in paragraph 12, to**
5 **evaluate economic nexus and to respond to**
6 **Mr. Malackowski and his report. So I would say**
7 **those were the -- that's at least a part of the way**
8 **to describe that framework.**
9 Q How did you identify the sources cited in
10 your declaration?
11 **A You mean find, like, or what do you mean,**
12 **"identify"?**
13 Q I guess you tell me. How did you come
14 across all of the stuff that's cited in your
15 declaration? Did you go out and look for it? Did
16 counsel provide it? Some combination?
17 **A I'd say the better description is I went**
18 **out and looked for information. I performed**
19 **research, gathered information.**
20 Q And that's something that Ms. Rowe and
21 Ms. Campbell assisted with?
22 **A They did.**

25

1 Q And did counsel provide you with any
2 documents that you didn't separately find?
3 **A I mean, it's possible, but nothing really**
4 **comes to mind.**
5 Q Okay. Why don't you turn to Attachment C
6 of your declaration.
7 **A Okay.**
8 Q You've got Attachment C before you?
9 **A I do.**
10 Q Attachment C to your declaration is a
11 list of the documents cited in your declaration,
12 correct?
13 **A That's correct.**
14 Q Did you consider any documents in forming
15 your opinion that are not listed in Attachment C?
16 **A Hmm. The idea is to do that. I think**
17 **I'd have to check and see if we separately listed**
18 **out the materials cited by Mr. Malackowski. I**
19 **reviewed all of those.**
20 **So it's possible that you can add to this**
21 **list by reference.**
22 Q So if you put in a single list the

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1 documents in Attachment C and the documents cited in
2 Mr. Malackowski's declaration, that would be the
3 universe of documents you considered in forming your
4 opinion?
5 **A I think within reason. A couple of**
6 **things. It's a manual process, and sometimes people**
7 **miss something like that, given the volume of**
8 **information that's here.**
9 **And then the other thing, sort of for**
10 **context, is that if I had to list every single thing**
11 **that I saw during my research, like if -- searching**
12 **for something on the Internet, for example, I do a**
13 **Google search or what have you and have a bunch of**
14 **tabs open on my computer, I don't think it would be**
15 **realistic or reasonable to catalogue every single**
16 **thing that I saw in that way, and I don't think**
17 **that's the intent of this process. I've never**
18 **understood it to be that way.**
19 **So those are the two main things that**
20 **come to mind when you ask me that question that are**
21 **sort of exceptions. But those seem to be reasonable**
22 **ordinary course exceptions, if you will.**

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1 Q So anything material to your opinion
2 would be here in Attachment C or possibly cited in
3 Mr. Malackowski's report?
4 **A I've tried to -- that's how I've tried to**
5 **go about this.**
6 (Reporter interruption.)
7 Q Aside from Mr. Malackowski's deposition
8 transcript, which I understand that you read after
9 submitting your report, do you --
10 **A No, I don't think --**
11 Q Right. You would have had it before you
12 submitted your report.
13 **A That's normally true, but that's not true**
14 **here.**
15 Q Yeah.
16 **A The sequencing.**
17 Q Of course. A little bit odd.
18 **A I can understand why you said that. But**
19 **now we've got the record correct.**
20 Q So let me ask you this. Have you
21 reviewed any documents related to this case since
22 your declaration was signed that are not cited in

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1 your declaration?
2 **A So that seems like it's possible, but**
3 **nothing comes to mind. That's a pretty broad**
4 **question, and I don't know that I remember anything**
5 **like that. But there's been some time that's**
6 **elapsed, and so it's possible.**
7 Q Did you ask to review any documents that
8 you weren't given?
9 **A No.**
10 Q Were you directed to focus on or ignore
11 any particular parts of documents you were given?
12 **A No.**
13 Q About how long did you spend reviewing
14 the documents listed in Attachment C prior to
15 submitting your declaration?
16 **A Well, I said over a hundred hours.**
17 **That's part of the process for preparing this**
18 **report.**
19 Q And you couldn't -- well, strike that.
20 Do you know how much time you spent
21 reviewing documents versus drafting?
22 **A I don't even know how to distinguish**

29

1 those two things, frankly. They sort of fit hand in
2 glove.
3 But if you ask me to make that
4 distinction, I don't. I don't know, because of that
5 reason.
6 Q Okay. You can turn back to paragraph 8.
7 Do you have paragraph 8 in front of you?
8 A Yes.
9 Q The purpose of your declaration is to
10 respond to a May 29th, 2024 declaration submitted by
11 James Malackowski, correct?
12 A Yes.
13 Q Your declaration does not respond to any
14 of Moderna's other expert declarations in this
15 matter, correct?
16 A Well, it may in terms of how the process
17 works, but in terms of my work and my focus, it's on
18 Mr. Malackowski's work.
19 Q Your declaration does not respond to
20 Dr. Fuller's declaration, correct?
21 A Not in a way that I focused on. It's
22 possible there may be some issues that I'm not aware

30

1 of.
2 Q You didn't cite Dr. Fuller's declaration
3 in your declaration, correct?
4 A I don't think so.
5 Q Your declaration does not respond to
6 Dr. Chan's declaration?
7 A The same answer.
8 Q And you didn't cite Dr. Chan's
9 declaration, correct?
10 A Same answer. Not that I remember. We
11 can look through this, but I don't recall that.
12 Q Now, you did review Dr. Krause's
13 declaration before you submitted your declaration,
14 correct?
15 A I did.
16 Q And you cite that -- you cite
17 Dr. Krause's declaration?
18 A I do.
19 Q Your declaration doesn't directly respond
20 to Dr. Krause's declaration, right?
21 A Yeah, he's a technical expert, and
22 technical experts sort of are engaged directly with

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1 one another, I think.
2 Q Your declaration addresses certain of
3 Mr. Malackowski's opinions regarding commercial
4 success, correct?
5 A Yes.
6 Q You don't offer any opinions on issues
7 other than commercial success.
8 Is that fair?
9 MR. MESTITZ: Objection to form.
10 A Well, there may be some, but in terms of
11 just describing my work at a high level, I would say
12 that that's true.
13 Q You don't offer opinions on validity,
14 right?
15 A Like, not broadly. That relates to this
16 specific issue, my work.
17 Q And you don't offer opinions on
18 anticipation or obviousness, right?
19 A Same answer.
20 Q You don't offer opinions on reasonable
21 expectation of success, correct?
22 A The same type of answer.

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1 Q You don't offer opinions on motivation to
2 combine, right?
3 A Same.
4 Q And you don't offer opinions on other
5 objective indicia of nonobviousness aside from
6 commercial success, right?
7 A Yeah, same. Not directly. This is -- my
8 report is where I focused, and whatever happens in
9 the process, I couldn't possibly know. But I think
10 I've described what I've done in my report.
11 Q Why don't you turn to Attachment A of
12 your declaration.
13 A Okay.
14 Q You have Attachment A in front of you?
15 A I do.
16 Q What is Attachment A?
17 A It's my CV.
18 Q Attachment A has a summary of your
19 credentials and your experience?
20 A It does.
21 Q You have a BS from Bradley University?
22 A I do.

33

1 Q You have an MBA from University of
2 Maryland?
3 **A I do.**
4 Q You're not a lawyer, right?
5 **A Correct.**
6 Q You don't have legal training, right?
7 **A Not formal legal training.**
8 Q Do you have informal legal training?
9 **A Well, I've taken coursework, business law**
10 **courses, for example. And this is not my first**
11 **deposition. And I am older than I wish I was, but**
12 **that also means that I've gained experience.**
13 **So I was trying to leave some room for**
14 **that.**
15 Q Okay. You're not offering legal opinions
16 in this case, right?
17 **A Correct.**
18 Q You're not an expert in FDA law and
19 procedure?
20 **A True.**
21 Q And you're not offering opinions on FDA
22 law or procedure, right?

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1 **A That's correct.**
2 Q You're not a technical expert, right?
3 **A I agree.**
4 Q And you're not offering technical
5 opinions in this case?
6 **A I'm not offering technical opinions,**
7 **that's correct.**
8 Q And you're not a person of skill in the
9 art in the '600 or '127 patent?
10 **A I agree.**
11 Q Why don't you turn to Attachment B while
12 we're at the end of the declaration here.
13 **A Okay.**
14 Q You have Attachment B in front of you?
15 **A I do.**
16 Q What is Attachment B?
17 **A It's a listing of my testimony. It's at**
18 **least four years of testimony. It goes back**
19 **actually further than that. Just to be cautious, so**
20 **it at least discloses that. But that's what it is.**
21 Q And in the past four years, have you
22 given any testimony, whether in a form of a report,

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1 deposition, or trial, in a case involving a
2 pharmaceutical product?
3 **A In the past four years --**
4 MR. MESTITZ: Objection to form.
5 Go ahead.
6 **A I don't know. I've done work on matters**
7 **involving pharmaceuticals, but I don't know how**
8 **that's worked out in terms of consulting work, I see**
9 **one here, versus expert testimony.**
10 Q And can you just say for the record what
11 that is.
12 **A It's a matter involving Novartis and**
13 **Regeneron.**
14 Q Any other work for pharmaceutical
15 companies that you can recall in the past four
16 years?
17 MR. MESTITZ: Object to form.
18 **A Well, I'm working on actually several**
19 **things and have worked on several things, though**
20 **that work can tend to be more on the consulting side**
21 **of what I do.**
22 Q About how much of your work is on

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1 pharmaceuticals versus other kinds of products?
2 MR. MESTITZ: Form.
3 **A I'd say it ebbs and flows, changes over**
4 **time. I don't know that I can give you a**
5 **percentage.**
6 Q Based on the cases listed in Attachment B
7 to your declaration, would it be fair to say that
8 the majority of your work is in cases involving
9 technical products?
10 MR. MESTITZ: Form.
11 **A No. I think it's a range of products.**
12 **I'm not sure how I would categorize that. I think,**
13 **like Mr. Malackowski, I do work across industries.**
14 Q And how would you characterize the
15 industries that are reflected in your work over the
16 past four years?
17 **A Just in the way that I just did.**
18 Q And can you get any more specific about
19 what the industries are?
20 **A I've worked across several industries.**
21 Q What are the industries that you've
22 worked across?

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1 A I've done work in the pharmaceuticals,
2 the health care, I think software,
3 telecommunications. Those would be some examples.
4 Q Consumer electronics?
5 A Yes.
6 Q Okay. You interviewed Dr. Griffin and
7 Dr. Moon in forming your opinions in this case,
8 right?
9 A I did.
10 Q I'd like to talk first about your
11 interview with Dr. Moon.
12 How many times did you interview
13 Dr. Moon?
14 MR. MESTITZ: Objection to form.
15 A So I'll say at least once.
16 Q So you can only recall one interview?
17 A Yeah. I chose -- I should say yes. I
18 chose to answer that question in a way that I don't
19 want to limit myself because some time has
20 transpired. It's hard to believe, but it's October.
21 And I'm fortunate I have a -- I've
22 inherited a good memory. I feel pretty good about

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1 my memory. But I also know how my memory works.
2 And I can recall speaking with him at
3 least once. That's the best I can do, knowing those
4 things.
5 Q When was your interview with Dr. Moon?
6 A Sometime prior to August 30th.
7 Q You don't recall the date?
8 A I wish I could do that.
9 MR. MESTITZ: Form.
10 A I'm working to have that type of memory,
11 but I can't give you a specific date. It was
12 sometime leading up to August 30th.
13 Q Was it in person?
14 A No.
15 Q Was it on the phone?
16 A It was by videoconference.
17 Q Who was in the meeting?
18 A Hmm. I don't want to marginalize anyone
19 else that might have been on it, but really, it
20 was -- I was focused on interviewing him. And I'm
21 sure there were other people, but I couldn't give
22 you a list with certainty.

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1 Q Do you recall anyone other than counsel
2 or colleagues at CRA being on that meeting?
3 A No.
4 Q How long did you speak to Dr. Moon?
5 A I'd say between 20 and 40 minutes.
6 Q Whose idea was it to interview Dr. Moon?
7 MR. MESTITZ: Objection to form.
8 A I would say at some point, it was mine.
9 I wanted to speak with technical experts. I
10 couldn't possibly know who was retained and who was
11 responsible for what. But in that sense, it was
12 something that I requested.
13 Q So you asked to speak with the technical
14 experts in this matter?
15 A I did.
16 Q What did you ask Dr. Moon in that
17 meeting?
18 A So the best way -- if you want to gain an
19 understanding of that, let me respond this way and
20 see if it's helpful -- would be to go through my
21 report and look at the places where I cited to my
22 interview of him and the things that he told me that

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1 were pertinent to my work.
2 The questions I asked him, I documented
3 in my report, and I noted those in footnotes. It's
4 not necessarily exhaustive. And again, I'm a human
5 being, so I can summarize what he said. But that
6 would be -- those would be the types of things.
7 Q At a high level, how would you summarize
8 what Dr. Moon told you on the interview?
9 A Well, one of the things he told me is
10 about the history of the discoveries and advances in
11 mRNA, and I wrote about that in, for example,
12 paragraph 93.
13 Q What's your understanding of Dr. Moon's
14 area of expertise?
15 A I'd have to look at his CV to be really
16 specific. But I understand that he has -- that he's
17 a technical expert who has experience in this field.
18 Q Was there anything Dr. Moon told you that
19 you didn't include in your declaration?
20 A Just reflecting on my past answer.
21 I think, within reason, I included the
22 things that he told me or described the things that

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1 he told me in my report that I thought were relevant
2 to my analysis.
3 Q Let's talk about your interview with
4 Dr. Griffin. How many times did you interview
5 Dr. Griffin?
6 A At least once.
7 Q You can only recall one interview?
8 A I can only recall? So I recall one
9 interview, and it's possible that there were more,
10 that I spoke with him twice. I don't think so. I
11 think I spoke with him once. But again, I'm a human
12 being. But my recollection is once.
13 Q When was that meeting?
14 A Sometime in the period leading up to
15 August 30th.
16 Q Was that meeting a videoconference?
17 A It was.
18 Q Who was in the meeting?
19 A It's the same. I really remember
20 speaking directly with him and engaging with him.
21 There were other people. I couldn't recite to you
22 who was able to make it and who wasn't. But I was

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1 focused on speaking with Dr. Griffin.
2 Q Other than counsel and your colleagues at
3 CRA, was anyone else on the meeting?
4 A No, not that I recall.
5 Q How long did you speak to Dr. Griffin?
6 A I think that's probably also between 20
7 and 40 minutes, but it may be more like -- more like
8 40 than 20.
9 Q What did you ask Dr. Griffin to tell you
10 about?
11 A What did I ask him to tell me about? I
12 mean, I had questions about the technology. I had
13 questions for him about Mr. Malackowski's
14 characterization of the technology and his
15 assumptions. And then I would say the types of
16 things that I wrote in my report.
17 Q What did -- strike that.
18 What's a summary of what Dr. Griffin told
19 you? How would you characterize his message?
20 A I would summarize it as I wrote in my
21 report. One of the ways that I did is -- that I
22 said is that there were discoveries and advances in

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1 the development of mRNA that span decades. And he
2 talked about mRNA vaccines and the technology. That
3 would be a high-level way of describing what he told
4 me.
5 Q Turn to page 46 of your declaration.
6 A Sure.
7 Q You've got page 46 in front of you?
8 A Yes.
9 Q Your declaration has a section called,
10 mRNA Vaccine Technologies: Prior Art and Moderna's
11 Place in the Technological Path.
12 Right?
13 A Yes.
14 Q You state that mRNA advancements were
15 decades in the making before the asserted priority
16 dates, right?
17 A Yes.
18 Q And you got that understanding of what
19 mRNA advancements were in the prior art from your
20 interviews with Dr. Moon and Dr. Griffin, correct?
21 A I would say specifically in terms of the
22 technology here. I think there's also general

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1 information that relates to that topic.
2 Q So let's delve into it a little bit more
3 specifically.
4 What did Dr. Moon tell you about mRNA
5 advancements in the prior art?
6 A Hmm. I think the best way to be able to
7 tell you that is to go through my report and look at
8 the citations to Dr. Moon. I think that we can do
9 that.
10 Dr. Moon told me a little bit more about
11 LNPs and lipids and delivery systems. I think
12 that's his area of focus, as I understand it. And I
13 cite to him a bit more, at least in part of my
14 report about that.
15 But I think, just turning through my
16 report, that the types of things that they told me
17 are noted in my report and with footnotes.
18 Q What did Dr. Griffin tell you about mRNA
19 advancements in the prior art?
20 A He walked me through the history of mRNA
21 technologies, and then he also told me the types of
22 things that I cited to him for.

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1 Q What did he tell you about the history of
2 mRNA technology?
3 **A Well, one of the things would be that**
4 **advancements were decades in the making. There's a**
5 **long history and hundreds -- as I wrote, many**
6 **hundreds of scientists over the years.**
7 **Those were the types of things he said.**
8 Q And that's generally true of science,
9 right? It's cumulative?
10 MR. MESTITZ: Objection to form.
11 **A I think that can depend upon what you're**
12 **talking about.**
13 Q It's pretty typical in the pharmaceutical
14 field to have work build on work that's come before?
15 MR. MESTITZ: Form.
16 **A That can vary. I think that there's**
17 **different scenarios.**
18 Q You're not suggesting that mRNA -- the
19 mRNA field is different from other scientific fields
20 in that regard, right?
21 MR. MESTITZ: Form.
22 **A So I would defer to a technical expert.**

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1 **But I do think the mRNA field is different than**
2 **others that I've seen.**
3 Q In what way?
4 **A I think the time and the energy and the**
5 **different technologies that have been included over**
6 **time. That would be one way to describe that.**
7 Q And did you compare, in forming your
8 opinions, the mRNA field to any other scientific
9 field?
10 **A So in terms of the science, I would defer**
11 **to Dr. Griffin, Dr. Moon, and other technical**
12 **experts for that.**
13 Q And I'm just asking about your opinions
14 in your declaration.
15 Your declaration doesn't compare the mRNA
16 field with other scientific fields.
17 Is that fair?
18 **A I don't know. I don't know if that's**
19 **fair. I think that -- I think it's pretty -- I**
20 **think it's pretty well understood that mRNA had**
21 **taken -- really the things that I wrote about in**
22 **paragraph 89, that it had been decades in the making**

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1 **for mRNA advancements, and there had been a lot of**
2 **energy by many hundreds of scientists dedicated over**
3 **many years.**
4 Q Your declaration doesn't compare the time
5 or energy expended on mRNA versus any other
6 scientific field. True?
7 **A I don't have a specific comparison, but I**
8 **think generally, my declaration addresses that, and**
9 **I think that that's inherent to what Dr. Griffin and**
10 **what Dr. Moon told me.**
11 Q So what did Dr. Griffin and Dr. Moon tell
12 you about that?
13 **A Well, they told me the types of things**
14 **that I wrote about, for example, in paragraphs 89**
15 **and 90.**
16 Q And paragraphs 89 and 90 do not contain
17 any comparison of mRNA to other scientific fields.
18 Yes?
19 **A Not specifically, but I think what**
20 **they're discussing and what they told me was within**
21 **context and in a relative sense.**
22 Q They didn't mention any other specific

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1 technologies to you?
2 **A I think they may have.**
3 Q What did they tell you?
4 **A I wish I had that type of memory. But I**
5 **do recall that what they described to me was in a**
6 **relative sense.**
7 Q Sitting here today, you have no point of
8 comparison between mRNA and other scientific fields
9 in terms of time or energy to develop?
10 MR. MESTITZ: Objection to form.
11 **A Hmm. I'm trying to think.**
12 **I think that this description -- these**
13 **descriptions, as I understand it, as they come from**
14 **Dr. Griffin and Dr. Moon, are relative. I'm trying**
15 **to think if -- I know that Mr. Malackowski didn't**
16 **address this, in a lot of ways, as I wrote in my**
17 **report.**
18 **And I don't know that there is a**
19 **specific, like, numeric comparison, but I think the**
20 **comparisons are inherent to my analysis and to what**
21 **Dr. Griffin and Dr. Moon told me, for example.**
22 Q So what I'm trying to figure out is

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1 relative to what. You said that your understanding
2 is, this description is relative. Relative to what?
3 **A I would -- for specifics as to**
4 **technologies and the ones that they provided to me,**
5 **I would speak to Dr. Griffin or Dr. Moon.**
6 Q Your declaration doesn't say what it's
7 relative to?
8 **A I'll think about whether there's**
9 **something, and let you know, that is, like, more**
10 **specific. But I can tell you, as I sit here right**
11 **now, they did provide me with those types of**
12 **comparisons, and these comments are on a relative**
13 **sense.**
14 Q And you didn't put that in your
15 declaration, correct?
16 **A Put what?**
17 Q You didn't put the relative comparison of
18 mRNA to another field in your declaration. True?
19 **A I think that it is clear that it's in a**
20 **relative sense. I don't know that there's any**
21 **specific comparisons, and I can't think of any**
22 **specific comparisons that Mr. Malackowski made**

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1 **either.**
2 Q So what is it about what you've written
3 in your declaration that you think implies relative
4 evaluation?
5 **A Well, there's a bunch. I think some of**
6 **these statements that I make, clearly they're in a**
7 **relative sense.**
8 **Paragraph 92, for example, describes how**
9 **technology in mRNA vaccines is complex.**
10 **Paragraph 91 goes to that. For both of those I**
11 **cite, in addition to a variety of materials, to**
12 **Dr. Griffin. I think those ideas are inherent to**
13 **those paragraphs.**
14 Q Other areas of pharmaceutical development
15 are complex, right?
16 MR. MESTITZ: Objection to form.
17 **A They can be.**
18 Q And you didn't compare those areas to
19 mRNA?
20 **A Well, I think those comparisons are**
21 **inherent to the descriptions that I've provided**
22 **here, and I think that Dr. Griffin and Dr. Moon have**

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1 **provided details as to that, and I think that**
2 **there's other sources that are consistent with that**
3 **as well.**
4 Q Such as? What other sources are
5 consistent with that?
6 **A Well, as I'm looking -- I'm looking at**
7 **the footnotes in -- on page 47, footnotes 174 and**
8 **175, I noted that in addition to Dr. Griffin, I**
9 **cited to those, for example.**
10 Q And are you suggesting that those
11 citations include some relative evaluation of the
12 time and effort spent on mRNA development versus
13 other technical areas?
14 **A Well, I don't have everything memorized,**
15 **but I do think that there's that type of description**
16 **or characterization is made in at least some of**
17 **these documents, yes.**
18 Q Your declaration doesn't contain a
19 quantitative evaluation of the time and effort spent
20 developing mRNA technologies versus other
21 technologies, correct?
22 **A I don't have any one specific comparison,**

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1 **but I think those comparisons are inherent to the**
2 **things that we've been talking about.**
3 MR. MESTITZ: We've been going about an
4 hour. So you should wrap this line whenever you
5 want.
6 MS. CURTIS: Okay. We can take a break
7 now.
8 (Recess from 10:04 a.m. until 10:17 a.m.)
9 BY MS. CURTIS:
10 Q So we were talking about the path of mRNA
11 development. Yes?
12 **A Yes, I remember.**
13 Q Just trying to reorient everyone to the
14 discussion.
15 **A Understood.**
16 Q So your discussion of the prior art does
17 not mention the Schrum reference, correct?
18 **A So I don't know that I -- I don't know if**
19 **I make that specific reference, but I may. That's**
20 **something that I would leave to technical experts,**
21 **that level of specificity.**
22 Q You don't cite the exhibit that is the

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1 Schrum reference asserted in this IPR, correct?
2 **A I may. That's something I would depend**
3 **on technical experts for, that level of specificity.**
4 Q Well, I'm not asking about anything about
5 the reference. I'm just asking you to confirm, your
6 declaration does not cite that reference, correct?
7 **A I mean, if it doesn't say that**
8 **specifically, then it doesn't. But I'm citing to**
9 **Dr. Griffin, for example, for those types of things.**
10 Q Okay. Your declaration doesn't cite
11 Schrum?
12 **A I don't know if I mention it**
13 **specifically, but it may. And then I would depend**
14 **on Dr. Griffin for that level of specificity.**
15 Q I'm not asking about the reference.
16 Do you understand that?
17 **A I thought you were asking about the**
18 **reference. So how are you making that distinction?**
19 Q Let me be clear. I'm not asking you
20 about the substance of the reference Schrum, okay?
21 **A Okay.**
22 Q You don't cite Schrum in your

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1 declaration?
2 **A I may. I may not use those words. And I**
3 **do cite to Dr. Griffin, for example, and depend upon**
4 **him for things like that.**
5 Q Do you understand what prior art is
6 asserted in this IPR?
7 **A Generally.**
8 Q Do you understand that the Schrum
9 reference is one of those pieces of prior art?
10 **A Yes, that rings a bell.**
11 Q You didn't cite the exhibit in your
12 declaration, Schrum?
13 **A I don't know if I did or didn't, if by**
14 **some other way. I do by referring to Dr. Griffin,**
15 **though.**
16 Q And did Dr. Griffin tell you anything
17 about Schrum?
18 MR. MESTITZ: Objection to form.
19 **A He may have. He may have.**
20 Q You don't remember one way or the other
21 whether Dr. Griffin told you about Schrum in your
22 interview?

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1 **A Well, he talked about some specifics**
2 **technically, and I left those to him. That's his**
3 **area.**
4 Q I'm going to try one more time.
5 You didn't cite Schrum specifically in
6 your declaration, correct?
7 **A Well, I don't know that I listed that in**
8 **those words, but some of the information may go to**
9 **that, and then I would depend upon Dr. Griffin, for**
10 **example, for those types of things.**
11 Q And you can't point me to any citation of
12 Schrum in your declaration, sitting here today,
13 correct?
14 **A I don't know that I could do that with**
15 **just the materials that I have right here.**
16 Q Okay. You don't recall anything specific
17 that Dr. Griffin told you about Schrum?
18 MR. MESTITZ: Form.
19 **A He did provide some specificity in terms**
20 **of discussing prior art, but I didn't list that in**
21 **my report because that's his area of responsibility.**
22 **He's the technical expert.**

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1 Q And in discussing the advancements in
2 mRNA technology, you didn't include Schrum, correct?
3 MR. MESTITZ: Form.
4 **A I don't know that I could say that.**
5 **We're in the same loop here. I would rely upon**
6 **Dr. Griffin for something like that. And some of**
7 **the materials in here may include that reference.**
8 **Because that's Dr. Griffin's focus, I left that type**
9 **of thing to him.**
10 Q You did cite some specific work in this
11 section, correct?
12 **A Some.**
13 Q You cited work from Dr. Karikó and
14 Dr. Weissman?
15 **A Yes.**
16 Q You cited several other exhibits that you
17 referred to earlier regarding the advancements in
18 mRNA technology, right?
19 **A There's other things in this section,**
20 **yes.**
21 Q But you didn't cite Schrum, correct?
22 **A I can't tell you with specificity that**

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1 that's specifically listed. But I would depend upon
2 Dr. Griffin for that level of specificity.
3 Q You don't cite Schrum. I'll represent
4 that to you. Okay? Do you accept my representation
5 that you don't specifically cite Schrum?
6 A I can accept your representation.
7 Q Okay. So you don't cite Schrum, right?
8 A Well, you're making a representation to
9 me that it's not specifically in my report.
10 Dr. Griffin did provide me with some
11 descriptions and described his work and research as
12 to the state of the art and the prior art. I left
13 that to him to describe in detail because that's
14 where he's an expert.
15 And as to whether any of this sort of
16 goes to that, some of these other references, I'd
17 have to defer to him.
18 Q So you have a section in your declaration
19 on the prior art, correct?
20 MR. MESTITZ: Form.
21 A So what I discuss is prior art and
22 Moderna's place in the technological path. I would

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1 cite to technical experts for prior art analyses,
2 for example.
3 Q You're not doing an analysis of the prior
4 art, correct?
5 A Not as a technical expert, no.
6 Q Did Dr. Griffin tell you anything about
7 Moderna's work on mRNA?
8 MR. MESTITZ: Objection to form.
9 A I think that was among the things that he
10 described.
11 Q What did Dr. Griffin tell you about
12 Moderna's work on mRNA?
13 A We can look in my report and see what I
14 cite to him for. I think he may have discussed the
15 other Moderna patents, for example.
16 Q What did he tell you about that?
17 A I think what he told me is that this is a
18 field that has many different technologies and there
19 were decades of research by many hundreds of
20 scientists. And he gave examples of those.
21 And I think that he has that in his
22 report. I think he at some point said, look, I've

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1 got a report, and I discuss this in a lot of detail.
2 Let me give you some, and let's see what is relevant
3 for your work.
4 Q You didn't think it was relevant to
5 specifically cite Schrum in this section?
6 A I think I put in what's relevant and
7 relied upon technical experts for technical issues.
8 Q Do you understand that another reference
9 asserted by petitioners in these IPRs is the Geall
10 reference?
11 A That sounds familiar, yes.
12 Q You don't specifically cite the Geall
13 reference in your declaration, correct?
14 A I mean, it would be the same. I'm
15 deferring to Dr. Griffin or Dr. Moon for those types
16 of things. And specificity and in general terms,
17 there may be some reference to that here. But
18 that's the type of thing I would defer to the
19 technical experts for.
20 Q As you sit here today, you can't point me
21 to any direct citation to the Geall reference in
22 your declaration. True?

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1 A I can point you to Dr. Griffin and
2 Dr. Moon and the work that they've done and what
3 they've told me in general terms. And I don't know,
4 if we searched on that word, if we found it, but I
5 think the concept of the prior art and the stated
6 art is discussed in detail.
7 Q Sir, I'm asking about your declaration.
8 You can't point me to a specific citation
9 to the Geall reference in your declaration, correct?
10 A I don't know that I could identify that
11 specifically, as I sit here right now. It may be
12 referenced indirectly in some of the materials I
13 cited. And the prior art issues and the
14 specificity, I cite to Dr. Griffin and Dr. Moon for.
15 So I think that I do, but I'm not a
16 technical expert, so I don't have the same level of
17 detail that a technical expert would.
18 Q I just want you to focus on my question.
19 Okay?
20 Sitting here today, you cannot point me
21 to a specific citation to the Geall reference in
22 your declaration, correct?

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1 **A I think that I answered your question. I**
2 **would give you the same answer, if that's the same**
3 **question.**
4 Q And the answer is, you can't, right?
5 **A No, that's not the answer I gave you.**
6 Q Okay. So where in your declaration is
7 there a specific citation to Geall?
8 **A I'll give you the same type of answer,**
9 **that I'm citing to Dr. Griffin and Dr. Moon and**
10 **technical experts. They've discussed the prior art**
11 **in detail. I'm relying upon them and that**
12 **information and their descriptions in detail on**
13 **that. And some of the references that I have in my**
14 **report and footnotes may relate to that.**
15 **I would defer to that for a technical**
16 **expert, too. I think I've made clear that that's**
17 **the type of thing that I would defer to a technical**
18 **expert on.**
19 Q You put specific citations in your
20 declaration. Geall is not one of them. Yes?
21 MR. MESTITZ: Asked and answered.
22 **A I would gave you the same answer to that**

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1 **as I've given you a few times in a row now.**
2 Q Did Dr. Griffin or Dr. Moon tell you
3 anything about Geall on your calls?
4 MR. MESTITZ: Object to the form.
5 **A They may have. They may have. They good**
6 **did go into some technical detail, yes, to**
7 **illustrate the types of things they were telling me.**
8 Q Do you recall anything that Dr. Griffin
9 or Dr. Moon told you about Geall?
10 **A I would need something to refresh my**
11 **memory as to that level of detail.**
12 Q You didn't include that detail in your
13 declaration, correct?
14 MR. MESTITZ: Form.
15 **A Well, I may have -- as I said, I may have**
16 **indirectly, but that level of specific type of**
17 **information, I would defer to Dr. Griffin and**
18 **Dr. Moon for.**
19 Q Is there anything that would refresh your
20 recollection about what you talked about with
21 Dr. Griffin and Dr. Moon?
22 **A Well, looking at my report, that**

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1 **refreshes my memory, and I don't know what other**
2 **materials might be available to do that. I can't**
3 **think of anything specifically to do that, that I**
4 **could give you an example of.**
5 Q Your declaration has not refreshed your
6 recollection about what Dr. Griffin and Dr. Moon
7 told you about Geall, correct?
8 **A Not with that level of specificity as to**
9 **the prior art and issues that they would have looked**
10 **into, into detail. I would defer to them for**
11 **specifics like that.**
12 Q Your discussion of the prior art in your
13 declaration doesn't mention the Yang reference
14 specifically, correct?
15 **A I don't know that I refer to that in that**
16 **way, in the same way that we've discussed with**
17 **Geall, for example.**
18 Q Your discussion of the prior art in your
19 declaration does not mention the Altmeyer reference
20 specifically, correct?
21 **A Not in the way that you're asking. I**
22 **think that it may in the way that I'm discussing,**

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1 **and certainly the state of the art and prior art and**
2 **Dr. Griffin and Dr. Moon's work, they provided me**
3 **with some detail about that, that work that they've**
4 **done that I would defer to them for.**
5 Q Did Dr. Griffin or Dr. Moon tell you
6 anything about Yang or Altmeyer when you talked to
7 them?
8 MR. MESTITZ: Form.
9 **A They may have, yes.**
10 Q You don't recall specifically whether
11 Dr. Griffin or Dr. Moon talked to you about Yang or
12 Altmeyer?
13 **A So they went into, like, more details as**
14 **technologists about the specific references, as I**
15 **think would be natural for them, and I defer to them**
16 **for that type of -- for that type of specificity,**
17 **them and technical experts.**
18 Q Did Dr. Griffin tell you that Geall does
19 not describe mRNA?
20 MR. MESTITZ: Objection to form.
21 **A I don't -- I would need something to**
22 **refresh my memory on that level of specificity.**

65

1 Q Sitting here today, you don't recall
2 whether Dr. Griffin told you that Geall does not
3 describe mRNA, right?
4 MR. MESTITZ: Form.
5 **A I would need something specific to**
6 **refresh my memory on that topic.**
7 Q Do you have notes from your call with
8 Dr. Griffin?
9 **A I tried to put the salient points from a**
10 **financial and economic perspective directly into my**
11 **report.**
12 Q Did Dr. Griffin tell you that Geall does
13 not describe LNPs?
14 MR. MESTITZ: Form.
15 **A He may have. I don't have -- I would**
16 **defer to him for that level of specificity, though.**
17 **I'm not a technical expert.**
18 Q Did Dr. Moon tell you that Geall does not
19 describe LNPs?
20 MR. MESTITZ: Form.
21 **A Again, they may have. I would defer to**
22 **them for that level of technical specificity.**

66

1 Q Did Dr. Griffin tell you that Geall does
2 not report encapsulation of mRNA?
3 MR. MESTITZ: Form.
4 **A So any level of specificity that you're**
5 **discussing like that about the technology, just to**
6 **go back and address the prior answers, whether**
7 **something did or didn't, I would defer to technical**
8 **experts for. They describe the state of the art and**
9 **the prior art and provided me with the types of**
10 **things that I cited in my report for.**
11 Q And I'm just trying to understand what
12 they told you on the interviews that you're relying
13 on them for.
14 Did Dr. Moon tell you that Geall does not
15 report encapsulation of mRNA?
16 MR. MESTITZ: Form.
17 **A I don't know that I could tell you. I'm**
18 **not a technical expert, and I've also -- this is a**
19 **patent infringement case with specific technical**
20 **issues.**
21 **So I would defer to them for that level**
22 **of specificity. Same for my prior answers.**

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1 **They did provide me with, sort of using**
2 **their vocabulary, descriptions and the work that**
3 **they did. And I leave that to them for the work**
4 **that they've done. They're the technical experts.**
5 **So anything like that in terms of the**
6 **specificity, I would defer to them, or technical**
7 **experts as to those particular issues.**
8 Q You understand I'm asking you about what
9 you recall from what they told you.
10 Is that clear?
11 **A Yes.**
12 Q Okay. Did Dr. Griffin tell you that
13 Geall does not report having made and used an LNP
14 encapsulating mRNA?
15 MR. MESTITZ: Form, asked and answered.
16 **A Same. I wouldn't have that level**
17 **specificity in my memory, and I would defer to them**
18 **for that.**
19 Q Did Dr. Moon tell you that Geall does not
20 report having made and used an LNP encapsulating
21 mRNA?
22 MR. MESTITZ: Form and asked and

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1 answered.
2 **A I would leave those types of issues to**
3 **them as technical experts.**
4 Q You don't recall if they said that?
5 **A Not that level of specificity.**
6 Q Did Dr. Griffin tell you that Geall
7 discloses only self-replicating RNA molecules as the
8 RNA, unlike the mRNA used in Comirnaty?
9 MR. MESTITZ: Form. Also argumentative.
10 **A I don't know that I could remember that**
11 **level of specificity, all those types of things, and**
12 **I would defer to technical experts for those types**
13 **of things.**
14 Q You don't recall?
15 **A What I remember is what I'm telling you,**
16 **is that they gave some specificity as to what they**
17 **were discussing, but they're the scientists and**
18 **technical experts, and I'm relying upon them.**
19 Q You don't recall whether Dr. Moon told
20 you that Geall discloses only self-replicating RNA
21 molecules as the RNA, unlike the mRNA used in
22 Comirnaty?

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1 MR. MESTITZ: Form and argumentative.
2 **A For those types of issues, same. I would**
3 **defer to the technical expert for that type of**
4 **thing, and I wouldn't be able to remember that level**
5 **of detail, sitting here right now.**
6 Q You don't recall whether Dr. Griffin or
7 Dr. Moon told you that Geall discloses only
8 liposomes encapsulating the RNA, unlike the LNPs
9 used in Comirnaty?
10 MR. MESTITZ: Form, argumentative.
11 **A That level of specificity, I would defer**
12 **to them. I can't give you, like, a specific**
13 **recollection of the scientific details. That's**
14 **their area of expertise.**
15 Q And aside from what you have cited in
16 your declaration, you don't recall the specifics of
17 what Dr. Griffin and Dr. Moon told you, correct?
18 **A I mean, I would defer to them for what**
19 **they said they provided me with. Some descriptions**
20 **from their perspective and their specific scientific**
21 **opinions, I think that's their area of expertise,**
22 **and I would leave it to them.**

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1 Q I'm just asking for your recollection.
2 **A I gave you -- I'm sorry, I didn't --**
3 (Cross-talk.)
4 Q So you don't recall any of the technical
5 detail of what Dr. Griffin and Dr. Moon told you
6 beyond what is included in your declaration. Fair?
7 MR. MESTITZ: Form, asked and answered.
8 **A I don't think that's fair. I gave you**
9 **some description of what I recalled and sort of how**
10 **my memory works and how the conversation went. So**
11 **I'm giving you additional color beyond what's in my**
12 **declaration from memory.**
13 **But I would defer to them for the**
14 **specifics. And I've included, I think, what the**
15 **salient points are in my report.**
16 Q Is there anything we haven't already
17 talked about that you recall Dr. Moon or Dr. Griffin
18 telling you on the interviews you had with them?
19 **A So I'm going to give you the same type of**
20 **answer. I can't remember verbatim everything they**
21 **said or all the examples that they used. I don't**
22 **know that I could. And with any level of**

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1 **specificity, I would defer to them.**
2 **So the answer to that question is, I**
3 **think I've done my best to include that in my**
4 **report, that my memory, I've also tried to describe**
5 **to you. In terms of going into details, I would**
6 **defer to them as to the types of specifics that you**
7 **are asking about.**
8 Q Mr. Malackowski offered the opinion that
9 Comirnaty and Spikevax achieved significant market
10 success, right?
11 **A Yes. I think he did. If you're**
12 **representing that that's a specific thing that he**
13 **said, but I think generally I know what you're**
14 **talking about.**
15 Q And you don't disagree with
16 Mr. Malackowski that Comirnaty and Spikevax have
17 achieved significant market success, right?
18 MR. MESTITZ: Objection to form.
19 Go ahead.
20 **A I mean, there's been some measures of**
21 **some ways that there's been success. I think the**
22 **jury is still out, if you will, that we're still --**

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1 **haven't seen the entirety of the cycle. But there's**
2 **been sales, for example, that I've included in my**
3 **report, I don't think Mr. Malackowski would disagree**
4 **with either.**
5 Q Your declaration doesn't offer an opinion
6 that Comirnaty is not commercially successful.
7 Fair?
8 MR. MESTITZ: Form.
9 **A Yeah, I focus on the nexus to any**
10 **success, and I think that's the way that I would**
11 **answer that.**
12 Q And similarly, you didn't offer the
13 opinion that Spikevax is not commercially
14 successful, correct?
15 MR. MESTITZ: Form.
16 **A I think that I focused on the nexus to**
17 **any success.**
18 Q I'll direct you to paragraph 35. Let me
19 know when you're there.
20 **A Okay. Okay.**
21 Q So you mention in your declaration that
22 Pfizer's Prevnar 13 was Pfizer's best selling

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1 product for years, right?
2 **A Yes.**
3 Q And you also mention that Prevnar 13 was
4 the best-selling vaccine in pharmaceutical history,
5 right?
6 **A Whatever the document cites in**
7 **footnote 58.**
8 Q Well, I'm just reading the last clause of
9 paragraph 35. You wrote, It was the best-selling
10 vaccine in pharmaceutical history, correct?
11 **A Yeah. I mean, there's an article that**
12 **refers to that.**
13 Q Okay. And that article is Exhibit 1190?
14 **A That's one of the two things in there.**
15 Q And the second one is Exhibit 1191?
16 **A Yes, in that footnote.**
17 MS. CURTIS: Why don't we go ahead and
18 take a look at those.
19 (Previously marked Exhibit 1190 presented
20 to the witness.)
21 BY MS. CURTIS:
22 Q So do you have before you Exhibit 1190?

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1 **A Yes.**
2 Q And this is the exhibit you cite for the
3 proposition that Prevnar 13 was Pfizer's
4 best-selling product for years?
5 **A I cite to this, yes.**
6 (Previously marked Exhibit 1191 presented
7 to the witness.)
8 BY MS. CURTIS:
9 Q And you also have Exhibit 1191 in front
10 of you?
11 **A Yes.**
12 Q Exhibit 1191 is the document you cite for
13 the proposition that Prevnar 13 was the best-selling
14 vaccine in pharmaceutical history?
15 **A Yes, there's a list in here.**
16 Q And you'd agree that Prevnar 13 is
17 commercially successful, correct?
18 MR. MESTITZ: Objection to form. Also
19 scope. Outside the scope.
20 MS. CURTIS: Well, it's in his
21 declaration.
22 MR. MESTITZ: Well, I won't -- I won't

75

1 make a speaking objection. But I disagree that the
2 question that you asked is encompassed within the
3 scope.
4 **A It depends on how you define**
5 **"commercially successful." There's been some**
6 **success, I think, in general terms in a layperson's**
7 **sense.**
8 Q Let's focus on Exhibit 1190. You have no
9 reason to doubt the accuracy of Exhibit 1190?
10 **A I think directionally -- I haven't vetted**
11 **the specific numbers, but I think directionally,**
12 **this seems accurate, consistent with other**
13 **information.**
14 Q You relied on Exhibit 1190?
15 **A It's one of the materials I cited in the**
16 **background section.**
17 Q Pfizer collected 23.4 billion in revenues
18 on sales of Prevnar 13 from 2015 through 2018?
19 **A That's how it was described in this**
20 **article.**
21 Q And Exhibit 1190 also describes Pfizer
22 collecting $5.8 billion in revenues on Prevnar 13 in

76

1 2018, right?
2 **A I see the reference to -- yes, it says**
3 **the last year, and this was from February 2019. So**
4 **I can see where you're getting the timing.**
5 Q Moderna realized more than 17 billion in
6 revenues on Spikevax in 2021, right?
7 **A I don't know that I could give you, like,**
8 **that level of specificity from memory. But I'll**
9 **accept your representation.**
10 Q And let me back up just a couple steps.
11 Do you recall that Mr. Malackowski
12 includes a summary of revenue numbers for Spikevax
13 and Comirnaty?
14 **A He includes some financials.**
15 Q And your declaration doesn't dispute the
16 accuracy of Mr. Malackowski's description of the
17 revenues for Spikevax and Comirnaty, correct?
18 **A I'm not taking issue with that**
19 **specifically, no.**
20 Q And Pfizer realized more than 36 billion
21 in revenues on Comirnaty in 2021, correct?
22 **A Well, I don't have that type of memory,**

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1 **although it's pretty good. I can't give you that,**
2 **like, level of specificity. But I can accept your**
3 **representation on that.**
4 Q So Spikevax and Comirnaty each made
5 several times more revenue in 2021 than Prevnar 13
6 did in 2018, right?
7 MR. MESTITZ: Form.
8 **A I mean, if you're just comparing those**
9 **two numbers, one is larger than the other. I can**
10 **agree with you on that.**
11 Q By several times, right?
12 **A I don't think that's actually true.**
13 MR. MESTITZ: Form.
14 Q Well, at least for Pfizer's revenue,
15 several times?
16 **A That may be true mathematically.**
17 Q Is there another sense in which it's not
18 true?
19 **A You asked me to make some assumptions**
20 **about numbers, and you're asking me if one is bigger**
21 **than another, and you're asking me if one is several**
22 **times larger than another. You're comparing two**

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1 **different time periods.**
2 **But setting that aside, one number is**
3 **larger than the other, and I think your mathematical**
4 **comparisons, like, after you corrected your first**
5 **one, I think it was okay, like, in terms of what you**
6 **said specifically, the math.**
7 Q And you don't dispute the math, right?
8 **A Your math a moment ago? I did, and then**
9 **you corrected it.**
10 Q And what are you referring to that was
11 incorrect?
12 **A I wasn't sure that your characterization**
13 **about several times applied to Spikevax, I think,**
14 **for example.**
15 Q So Spikevax's revenue in 2021 was almost
16 but not quite three times Prevnar 13's revenue in
17 2018?
18 **A What are the numbers you provided me**
19 **with?**
20 Q 5.8 and 17 billion.
21 **A Yeah, in rough terms, that's how the math**
22 **works.**

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1 Q Okay. Let's take a look at paragraph 11
2 of your declaration.
3 Do you have paragraph 11 in front of you?
4 **A Yes.**
5 **And I hate to do this, but can I take,**
6 **like, three minutes to use the rest room?**
7 MS. CURTIS: Of course.
8 (Recess from 10:49 a.m. until 10:52 a.m.)
9 BY MS. CURTIS:
10 Q So you have paragraph 11 of your
11 declaration before you?
12 **A I do.**
13 Q And you state there that Pfizer and
14 BioNTech contest that Comirnaty infringes the '600
15 patent and the '127 patent, correct?
16 **A Yes.**
17 Q What's the basis for your understanding
18 that Pfizer and BioNTech contest that Comirnaty
19 infringes the '600 and '127 patents?
20 **A I think generally, there's a disagreement**
21 **about that. There's a range of things.**
22 Q So I just want to be clear about this.

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1 You understand there's no disagreement
2 about that in the IPRs, right?
3 **A Oh, if you're saying that this is**
4 **specific to invalidity, I think that's -- that's**
5 **true. I think I was using this in a sort of more**
6 **general sense.**
7 Q And you're not aware of Pfizer and
8 BioNTech arguing in any paper in these proceedings,
9 the IPRs, that Comirnaty does not practice the '600
10 or '127 patent, correct?
11 **A I don't know that I would -- I could give**
12 **you, like, something that says that. But I wouldn't**
13 **want to make a blanket statement about that either.**
14 Q Sitting here today, you're not aware of
15 any paper in these IPRs where Comirnaty disputes --
16 let me strike that. Try again.
17 Sitting here today, you're not aware of
18 any paper in these IPRs where Pfizer and BioNTech
19 dispute that Comirnaty practices the '600 or '127
20 patents, correct?
21 **A I couldn't cite to you anything. I think**
22 **there's challenges as to validity.**

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1 Q You're not aware of any expert testimony
2 that Pfizer and BioNTech have put forward that
3 Comirnaty does not practice the '600 or '127
4 patents?
5 **A I don't know that I could give you that**
6 **level of specificity or speak on behalf of a**
7 **technical expert.**
8 Q For your part, you assumed that Comirnaty
9 and Spikevax practice the '600 and '127 patents?
10 **A Yes, I incorporate claims of the '600 and**
11 **'127 patent. I write that in the second sentence of**
12 **this paragraph.**
13 Q Take a look at paragraph 14.
14 **A Okay.**
15 Q Do you have paragraph 14 in front of you?
16 **A I do.**
17 Q Your understanding that the '600 and '127
18 patents claim priority to October of 2015, correct?
19 **A That's what I wrote.**
20 Q Spikevax and Comirnaty both launched in
21 late 2020, correct?
22 **A Yes.**

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1 MR. MESTITZ: Objection to form.
2 **A I mean, there's more -- I said they're**
3 **created and released in 2020 is what I describe in**
4 **the second sentence.**
5 Q There's no requirement to show commercial
6 success at the priority date, correct?
7 MR. MESTITZ: Objection to form.
8 **A Like a specific requirement? I'm not**
9 **sure there's a specific requirement or rule like**
10 **that.**
11 Q And it's not uncommon, in fact, for a
12 product to launch after the patents are filed that
13 the product practices, right?
14 MR. MESTITZ: Form.
15 **A Not uncommon. That happens is what I**
16 **would say.**
17 Q In fact, you have opined in cases
18 involving patents filed years before a product
19 launches, correct?
20 MR. MESTITZ: Form.
21 **A There's probably instances like that.**
22 Q And you've represented to the Board in

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1 instances like that, that that product was
2 commercially successful, right?
3 MR. MESTITZ: Form.
4 **A Yeah, I don't have any specific**
5 **recollection of that. Every case is specific, and**
6 **the facts are specific. I wouldn't rule that out.**
7 **I didn't suggest there's an absolute rule here that**
8 **applies.**
9 Q Okay. Turn to page 72 of your
10 declaration.
11 **A Okay.**
12 Q Do you have page 72 in front of you?
13 **A I do.**
14 Q Okay, great. You have a section in your
15 declaration titled Macroeconomic and Regulatory
16 Considerations. Yes?
17 **A I do.**
18 Q And governments played a role in the
19 launch of Spikevax and Comirnaty, right?
20 **A Yes.**
21 Q Governments played a role in the launch
22 of Spikevax and Comirnaty because of the public

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1 health crisis caused by COVID-19, right?
2 **A I agree.**
3 Q And governments, among other things,
4 provided an expedited approval process for COVID-19
5 vaccines, correct?
6 MR. MESTITZ: Form.
7 **A I would say that they availed themselves**
8 **of expedited approval processes.**
9 Q I just want to make sure I have your
10 testimony clear.
11 Is the "they" in that last answer
12 governments or --
13 **A Yes.**
14 Q -- manufacturers?
15 So governments made available an
16 expedited approval process for COVID-19 vaccines?
17 **A That's probably a better way of saying**
18 **it.**
19 Q Okay. Governments provided subsidies for
20 development of COVID-19 vaccines, correct?
21 MR. MESTITZ: Form.
22 **A There were programs that -- and funding,**

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1 **if that's what you're referring to. I refer to that**
2 **later.**
3 Q Moderna and Pfizer and BioNTech were not
4 the only companies that attempted to develop
5 COVID-19 vaccines in 2020, correct?
6 **A That's correct.**
7 Q And you're aware that over 200 companies
8 attempted to develop COVID-19 vaccines?
9 MR. MESTITZ: Form.
10 **A It depends at what point in time you're**
11 **talking about. I do think, like, initially, there**
12 **was sort of widespread interest. I don't know if**
13 **the number you cite is exactly right. There's**
14 **different ways you can measure it.**
15 Q And those other companies had access to
16 the expedited approval processes that governments
17 made available, correct?
18 MR. MESTITZ: Form.
19 **A They didn't necessarily leverage them or**
20 **have the ability to leverage them as others did.**
21 **But there was some general availability that**
22 **companies were able to leverage in different ways.**

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1 Q And other companies also had access to
2 governmental incentives to develop COVID-19
3 vaccines, correct?
4 MR. MESTITZ: Form.
5 **A I think my answer would be the same. It**
6 **was -- there was a dynamic process. Different**
7 **companies were in different positions. Some of them**
8 **leveraged the opportunities or the programs and were**
9 **able to and some weren't.**
10 Q Pfizer and BioNTech investigated vaccine
11 candidates other than what ultimately became
12 Comirnaty, right?
13 **A There were different vaccine candidates**
14 **that they considered.**
15 Q Your declaration doesn't consider whether
16 the other candidates tested would have practiced the
17 '600 or '127 patents, right?
18 MR. MESTITZ: Form.
19 **A I think that's a topic that**
20 **Mr. Malackowski raised that I responded to.**
21 Q And are you trying to find the location
22 where you respond to that?

87

1 **A No. I was waiting for you to ask another**
2 **question.**
3 Q Can you point me to where in your
4 declaration you respond to that point?
5 **A Paragraph 113.**
6 Q And so let me know if I have this wrong,
7 but it looks like your response is that
8 Mr. Malackowski didn't analyze why Pfizer and
9 BioNTech's other candidates would not have practiced
10 the '600 and '127 patents.
11 Is that right?
12 **A I said he did not identify particular**
13 **inventions of the '600 or '127 patents that caused**
14 **candidates -- you can say those candidates,**
15 **referring to what's in the prior sentence -- to be**
16 **selected or identify which of the candidates**
17 **included the '600 or '127 patents.**
18 **That's what I wrote.**
19 Q And you didn't undertake to analyze
20 whether the other candidates investigated by Pfizer
21 and BioNTech would practice the '600 and '127
22 patents, right?

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1 **A So I can get Mr. Malackowski's report**
2 **out. I think part of what I've written here is that**
3 **he's implying that the others did not, and it's not**
4 **clear if he is saying that in an absolute sense or**
5 **saying that there's some that do and some that**
6 **don't. We can look at his declaration and see if**
7 **he's more specific. My recollection is that he's**
8 **not.**
9 **And so I kind of considered both**
10 **possibilities. And what I'm raising here as an**
11 **issue is that he didn't identify what caused those**
12 **candidates to be selected or which specifically**
13 **included the '600 or '127 patents.**
14 Q Of the companies that tried to develop
15 COVID-19 vaccines, Pfizer and BioNTech's Comirnaty
16 was the first to be authorized in the U.S., right?
17 **A I think that's true.**
18 Q And Moderna's Spikevax was the second
19 COVID-19 vaccine to be authorized in the U.S. one
20 week later, right?
21 **A That's consistent with my memory.**
22 Q You're not aware of any other COVID-19

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1 vaccine that has achieved the same revenue numbers
2 as Comirnaty or Spikevax, right?
3 MR. MESTITZ: Form.
4 **A The same? They're all different.**
5 **They've all achieved different levels of revenues.**
6 Q Let me be more specific.
7 You're not aware of any other COVID-19
8 vaccine that has achieved revenue numbers as high as
9 Comirnaty or Spikevax, correct?
10 MR. MESTITZ: Form.
11 **A I think in the U.S., what you say may be**
12 **true for a period of time.**
13 Q Are you aware of any geography or time
14 period where a COVID-19 vaccine other than Comirnaty
15 or Spikevax achieved higher revenue numbers than
16 Comirnaty or Spikevax?
17 MR. MESTITZ: Form.
18 **A Can you ask your question again? I don't**
19 **think I followed it.**
20 Q Are you aware of any geography or time
21 period where a COVID-19 vaccine other than Comirnaty
22 or Spikevax achieved higher revenue numbers than

90

1 Comirnaty or Spikevax?
2 MR. MESTITZ: Same objection.
3 **A Around the world? I think there's -- I**
4 **don't know that I could give you, like, a global or**
5 **a panoptic accounting of, like, country by country,**
6 **if that occurred. But I think that's a possibility**
7 **in some countries.**
8 Q But you don't know?
9 **A Well, I'd need a document or information**
10 **to provide me with something specific. But I think**
11 **there's different situations in different countries.**
12 Q Let me put it this way. You didn't
13 include in your declaration an analysis of revenues
14 for other COVID-19 vaccines, correct?
15 **A I think I cite to some information for**
16 **other COVID-19 vaccines, but I don't know that**
17 **there's, like, a comparison that's any different**
18 **than what Mr. Malackowski might have available to**
19 **him.**
20 Q In the U.S., no other COVID-19 vaccine
21 has revenues as high as Comirnaty or Spikevax,
22 right?

91

1 **A Historically has had, I think is -- may**
2 **be more accurate.**
3 Q Let's take a look at paragraph 65 of your
4 declaration.
5 **A Okay.**
6 Q Do you have paragraph 65 in front of you?
7 **A I do.**
8 Q You agree that nexus may be presumed when
9 the patent owner shows that the asserted objective
10 indicia -- sorry. Let me strike that so I make sure
11 I get this right.
12 You agree that nexus may be presumed when
13 the patent owner shows that the asserted objective
14 evidence is tied to a specific product, that product
15 embodies the claimed features, and is coextensive
16 with them. Correct?
17 **A Well, I would say I understand that is a**
18 **part of the legal framework, as I wrote in my**
19 **report.**
20 Q And you applied that legal framework in
21 coming to your opinions, correct?
22 **A I'd say that I applied that understanding**

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1 **as I wrote, among other things. I did so from a**
2 **financial and economic perspective.**
3 Q So I want to break that standard down a
4 bit.
5 Thinking about the revenue numbers that
6 Mr. Malackowski offers, you wouldn't dispute that
7 those revenue numbers are tied to specific products,
8 meaning Comirnaty and Spikevax, correct?
9 MR. MESTITZ: Objection to form.
10 **A Tied to? Well, they relate to. I don't**
11 **know that I would use that. Or they're from, like**
12 **as reported.**
13 Q Okay. So they are the revenue numbers
14 for Spikevax and Comirnaty specifically, right?
15 **A I think there are some revenue numbers**
16 **for Spikevax and Comirnaty.**
17 Q And I'm just returning to the language of
18 paragraph 65. You see there the phrase, tied to a
19 specific product?
20 **A I do.**
21 Q And you don't dispute that the revenue
22 numbers for Spikevax and Comirnaty are tied to

93

1 Spikevax and Comirnaty, right?
2 MR. MESTITZ: Form.
3 **A Well, that's why --**
4 MR. MESTITZ: Calls for a legal opinion.
5 **A -- I answered your question earlier the**
6 **way that I did is, I mean, that's a legal term in a**
7 **certain context, and I think it relates to patents.**
8 **The revenues are what they are, and this is part of**
9 **a broader idea.**
10 Q This is a quotation of the legal standard
11 you applied, correct?
12 **A This is a quotation from a case that I**
13 **understand relates to when a nexus may be presumed**
14 **for commercial success.**
15 Q And you opine on nexus in this case,
16 right?
17 **A Yes, I have economic opinions that relate**
18 **to nexus.**
19 Q And do you have any understanding of what
20 it means to be tied to a specific product?
21 **A That's a word that I see people use, and**
22 **I think in terms of it being used here, it's part of**

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1 **a broader sentence, part of which I quoted.**
2 Q Do you dispute that the revenue numbers
3 for Spikevax and Comirnaty are tied to Spikevax and
4 Comirnaty?
5 **A I wouldn't use that term, if you're just**
6 **reporting revenues of a product.**
7 Q Why not?
8 **A Because that generally has -- when that**
9 **term is used, that's, like, not a financial or**
10 **economic term; that's a legal term. And when it's**
11 **being used here, it relates to something more**
12 **specific, and at least in part in this sentence**
13 **describes claimed features and coextensiveness.**
14 Q You have an understanding of
15 coextensiveness?
16 **A I think it depends what the context is**
17 **that you'd ask me. But I know what the word means.**
18 Q You applied your understanding of what
19 coextensiveness means to the issues in this case.
20 Yes?
21 **A The next sentence relates to that, at**
22 **least in part, if that's what you're asking about.**

95

1 Q So let me, before we get to
2 coextensiveness, just return to that first sentence
3 of paragraph 65.
4 Do you have that in mind?
5 **A I have it right in front of me.**
6 Q Good. Even better than in mind.
7 So the second of the three clauses there
8 says, that product embodies the claimed features.
9 Do you see that?
10 **A Yes.**
11 Q You don't dispute that Spikevax and
12 Comirnaty embody the claimed features of the '600
13 and '127 patents, right?
14 MR. MESTITZ: Object to form. Also asked
15 and answered.
16 **A So there's, I think, some disagreement on**
17 **that, like we've talked about, and I've made an**
18 **assumption, like, earlier that we talked about. I**
19 **can -- I think like most people that have done this**
20 **type of work, I can entertain hypotheticals, so I**
21 **can consider both ideas, that it does or doesn't, on**
22 **a variety of different dimensions, and I think I**

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1 **address this that in my report, and as we've**
2 **discussed earlier, at least in part.**
3 Q I just want to make sure I'm clear on
4 what assumptions you're applying when you gave your
5 opinions in this declaration.
6 You don't dispute, for purposes of your
7 declaration, that Spikevax and Comirnaty embody the
8 claimed features of the '600 and '127 patents,
9 right?
10 **A So I understand there's a dispute about**
11 **that, and I also have made the assumption that I**
12 **described earlier. We can point specifically to it**
13 **in my report. I wrote in paragraph 11, I will**
14 **assume that both Comirnaty and Spikevax incorporate**
15 **claims of the '600 and '127 patent. And I go on to**
16 **say that there's many other technologies as well.**
17 **So I think we've talked about that, and**
18 **my assumptions are clear.**
19 Q Is it accurate to say that of the three
20 requirements in the first sentence of paragraph 65,
21 you only dispute that the objective evidence is not
22 coextensive -- well, let me rephrase that.

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1 Is the only thing you dispute in the
2 first sentence of paragraph 65 that Comirnaty and
3 Spikevax are coextensive with the claims of the '600
4 and '127 patent?
5 MR. MESTITZ: Form.
6 **A So I don't -- I understand your question,**
7 **like, in plain English, but I don't understand your**
8 **question in that I don't think it's an accurate**
9 **characterization of what's here.**
10 Q Why not?
11 **A Because it's only, like, part of a**
12 **sentence. And you're reducing it to, like, some**
13 **rules and, like, a pronged test.**
14 **And also, there's a phrase that says,**
15 **asserted objective evidence. And that's, I think,**
16 **pretty encapsulating.**
17 Q So --
18 **A There's probably other reasons. But just**
19 **to respond to your question, like, those two things**
20 **came to mind.**
21 Q Okay. And you understand that this case
22 that you're quoting is a description of the law on

98

1 presumption of nexus?
2 **A It's from a case, and my understanding is**
3 **that it relates to presumption of nexus and**
4 **provides, like, some reasonable framework. I'm not**
5 **a lawyer, but that's my understanding, is that it's,**
6 **like -- I'm describing a concept. I don't -- I**
7 **think I'll just leave it there.**
8 Q Is the quotation in the first sentence of
9 paragraph 65 of your declaration from the Fox
10 Factory case the standard that you applied in
11 evaluating presumption of nexus in your declaration?
12 MR. MESTITZ: Form.
13 **A I consider this as background and as a**
14 **general understanding of some of the issues that**
15 **courts may consider, and then I apply my financial**
16 **and economic training and skill sets.**
17 Q Is there any portion of the quote from
18 Fox Factory on paragraph 65 of your declaration that
19 you disagree with?
20 MR. MESTITZ: Form.
21 **A I don't disagree with anything as long as**
22 **it's being placed in proper context and not being**

99

1 **mischaracterized.**
2 Q Is there any portion of the standard you
3 quote in paragraph 65, first sentence, from Fox
4 Factory that you did not apply in coming to your
5 opinions in this case?
6 **A I think that I applied this from a**
7 **financial point of view.**
8 Q Okay. And I --
9 **A I'm not a lawyer, as we've talked about**
10 **now several times.**
11 Q And I want to understand how you applied
12 this standard, okay, so that's what I'd like to talk
13 about now.
14 In terms of whether the asserted
15 objective evidence is tied to a specific product,
16 you didn't dispute that in your declaration, right?
17 MR. MESTITZ: Form, asked and answered.
18 **A Well, what do you mean by "asserted**
19 **objective evidence," and what do you mean by "tied**
20 **to"? I mean, I'm not here to object to language**
21 **that I understand applies, but I don't know**
22 **specifically what part of my report you're referring**

100

1 **to when you -- when you're referring to those two**
2 **phrases.**
3 Q You quoted Fox Factory in paragraph 65,
4 correct?
5 **A Yes, in part.**
6 Q What was your understanding of the
7 quotation that you included in paragraph 65, first
8 sentence?
9 **A I think it's as written as part of a**
10 **broader case and as part of more that I've written.**
11 **And I understand these are the types of issues that**
12 **courts may be interested in.**
13 Q Do you have an understanding of what the
14 phrase "asserted objective evidence" means?
15 **A So we can look at the case, it's part of**
16 **what the case says, and be more specific about what**
17 **it means.**
18 **But I think generally, it is consistent**
19 **with my memory and reasonable to think that that, in**
20 **some way at least, refers to the facts and**
21 **circumstances of each particular case and relates to**
22 **the patented technology in that case.**

101

1 Q Let me see if this sounds right to you.
2 Would you understand the asserted
3 objective evidence to be the evidence of objective
4 indicia of nonobviousness advanced by the patent
5 owner?
6 **A I'd have to read the paragraph and the**
7 **words that precede this to try to, like, read**
8 **something into this. That's not what I'm trying to**
9 **do here.**
10 Q Do you have any understanding of what
11 asserted objective evidence is, without having read
12 the case?
13 MR. MESTITZ: Do you mean in the context
14 of -- form.
15 **A Can you re-ask that question, please.**
16 **Without having -- I didn't understand what you're**
17 **asking.**
18 Q Yeah. So you said you'd want to read the
19 case to get the context. So I'm asking, without
20 having the case in front of you, do you have an
21 understanding of what asserted objective evidence
22 means?

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1 MR. MESTITZ: Form.
2 **A Well, I thought I answered that. I think**
3 **in general terms, that would relate to the specific**
4 **facts and circumstances of any particular case. And**
5 **to be more specific than that, we need to, I think,**
6 **review maybe the case or the paragraph in its**
7 **entirety.**
8 Q Do you understand the revenue and sales
9 numbers for Spikevax and Comirnaty to be within the
10 ambit of the asserted objective evidence?
11 MR. MESTITZ: Form.
12 **A I think that's among the facts we have to**
13 **consider here. The question here is nexus to those**
14 **facts.**
15 Q Okay. Now I want to talk about that.
16 **A Is this a good time to take a break?**
17 MS. CURTIS: Sure. Any time you want.
18 THE WITNESS: All right. Thank you.
19 (Recess from 11:23 a.m. until 11:36 a.m.)
20 BY MS. CURTIS:
21 Q So when last we left off, we were talking
22 about Fox Factory. Do you still have paragraph 65

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1 in front of you?
2 **A I do.**
3 Q And I want to talk about how you analyze
4 nexus or not to the revenue numbers for Spikevax and
5 Comirnaty. All right?
6 **A Sure.**
7 Q And you analyzed that in part by applying
8 the legal standard in Fox Factory.
9 Is that fair?
10 **A Well, I have an understanding of the**
11 **legal standard generally, as I wrote in this**
12 **section. I'm not a lawyer, so I don't know that I**
13 **could totally agree with that just, like, flatly**
14 **without that context.**
15 Q There are three parts to this presumption
16 of nexus, right?
17 **A In this sentence, you can break -- this**
18 **part of the sentence, you can break it down into**
19 **three pieces.**
20 Q Is what's described in this quotation
21 your understanding of the current state of law on
22 presumption of nexus?

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1 **A I think within context, sure.**
2 Q Did you analyze whether the revenue
3 numbers for Spikevax and Comirnaty were tied to
4 Spikevax and Comirnaty?
5 **A We talked about that earlier. Like, I**
6 **think it's asserted objective evidence is tied to a**
7 **specific product, that's typically a legal term.**
8 **The revenues of Spikevax and Comirnaty are the**
9 **revenues of Spikevax and Comirnaty.**
10 **My understanding is, is that this relates**
11 **to the -- as it goes on to say, something more**
12 **specific, the product embodies the claimed features.**
13 **So it's talking about patents specifically.**
14 **And it's also relating to presumption of**
15 **nexus, that concept.**
16 Q Did you analyze whether the revenues for
17 Spikevax and Comirnaty -- well, strike that.
18 Did you analyze whether Spikevax and
19 Comirnaty embody the claimed features?
20 MR. MESTITZ: Objection to form, asked
21 and answered.
22 **A Well, I made assumptions about that.**

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1 Q And your assumption was that Spikevax and
2 Comirnaty incorporate the claims of the '600 and
3 '127 patents?
4 MR. MESTITZ: Form, asked and answered.
5 **A I think the language that I used -- so I**
6 **assume Comirnaty and Spikevax incorporate claims of**
7 **the '600 and '127 patent, as an assumption.**
8 Q You analyzed whether Spikevax and
9 Comirnaty are coextensive with the claimed features
10 of the '600 and '127 patent, right?
11 **A So I think that's largely a technical**
12 **opinion, and I addressed that in different places in**
13 **my report.**
14 Q So whether a product is coextensive with
15 the claims of a patent is a technical issue, right?
16 MR. MESTITZ: Objection to form.
17 **A I think you can have -- you can look at**
18 **that from a technological point of view.**
19 Q Is there some non-technological point of
20 view from which you looked at the question of
21 coextensiveness?
22 **A I think economically, you can look at**

106

1 **other intellectual property and intangible assets**
2 **that might contribute to revenue. I've discussed**
3 **that in my report.**
4 Q You dispute that Comirnaty and Spikevax
5 are coextensive with the claims of the '600 and '127
6 patents, right?
7 **A So my understanding is, that wouldn't be**
8 **the correct way to describe things. And I think**
9 **there's other contributions, as I discussed.**
10 Q So do you agree that Comirnaty and
11 Spikevax are coextensive with the claims of the '600
12 and '127 patents?
13 MR. MESTITZ: Form, asked and answered.
14 **A Well, I've written about this in my**
15 **report in different places, so I would defer**
16 **specifically to what I wrote on this topic.**
17 Q What's your opinion on coextensiveness of
18 Spikevax and Comirnaty to the '127 and '600 patents?
19 **A So my opinions on that topic would be as**
20 **I wrote in my report.**
21 Q Which are what?
22 **A For example, there's a couple places**

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1 **where I discuss this. Mr. Malackowski testified**
2 **that Spikevax and Comirnaty are not complex**
3 **multicomponent products. He said that the patented**
4 **technology can't be separated.**
5 **My understanding is that Spikevax and**
6 **Comirnaty have many significant unpatented features**
7 **and they are not coextensive with the asserted**
8 **claims.**
9 **I continued to write that there's**
10 **multiple considerations that relate to success. And**
11 **I continued to go on.**
12 **Those would be some examples of where I**
13 **address that issue.**
14 Q Okay. And I don't mean this to be
15 confusing or anything. I read your report, and I
16 understood your opinion to be that Comirnaty and
17 Spikevax are not coextensive with the claimed
18 features.
19 Is that an accurate understanding?
20 **A I think from an economic point of view,**
21 **that is consistent with what I've seen. I think**
22 **there's also -- you can take a look at this from a**

108

1 **technological perspective, and I cite to Dr. Griffin**
2 **for that, as I did earlier. The proposition that**
3 **they're not coextensive and his opinion of that I**
4 **document in footnote 160, for example.**
5 Q Okay. So let's talk about what
6 coextensiveness means, all right? Do you have that
7 topic in mind?
8 **A Yes.**
9 Q The existence of unclaimed features alone
10 does not mean that no presumption of nexus applies,
11 right?
12 MR. MESTITZ: Form.
13 **A Is there a specific place that I cite**
14 **that in my report? Where do you get that quote**
15 **from? You're quoting something.**
16 Q I'm just asking about your understanding
17 right now, okay?
18 **A Sure.**
19 Q You talk about a lot of unclaimed
20 features in your declaration, right?
21 **A I do.**
22 Q But the existence of unclaimed features

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1 in general does not mean that there's no presumption
2 of nexus, right?
3 MR. MESTITZ: Form.
4 **A I think that depends on the specifics. I**
5 **discuss the legal framework in paragraph 65, as I**
6 **understand it.**
7 Q But you would agree that there can be a
8 presumption of nexus even when a product has
9 unclaimed features, right?
10 MR. MESTITZ: Form.
11 **A Well, I think, as I wrote, there's an**
12 **example that's provided that unclaimed features**
13 **amount to nothing more than additional insignificant**
14 **features. That's in the second sentence of**
15 **paragraph 65.**
16 Q So there are situations where unclaimed
17 features can amount to nothing more than additional
18 insignificant features, right?
19 MR. MESTITZ: Form.
20 **A That's an example that's provided in a**
21 **case that I understand is applicable potentially.**
22 Q And you would also agree that the mere

110

1 existence of unclaimed features doesn't necessarily
2 undermine presumption of nexus, correct?
3 MR. MESTITZ: Form.
4 **A Well, I think there's potentially more to**
5 **consider, as I wrote in the next sentence, that**
6 **there's another example. If the patented invention**
7 **is only, I'll just paraphrase, part of the**
8 **successful machine or process, the patentee is not**
9 **entitled to a presumption of nexus.**
10 Q So you don't disagree with me that you
11 can have some unclaimed features and still have
12 nexus, right?
13 **A Well, I'm not a lawyer. But my**
14 **understanding is that if unclaimed features amount**
15 **to nothing more than additional insignificant**
16 **features, that that can be a consideration.**
17 Q Okay. Perfect correspondence between the
18 claimed invention and the product is not required
19 for nexus, right?
20 MR. MESTITZ: Objection to form.
21 **A I'm trying to think. That phrase, can**
22 **you give me some more context for that, "perfect**

111

1 **correspondence"?**
2 Q So it's not your opinion that the
3 embodying product has to be in exact alignment with
4 the claims of a patent for there to be nexus, right?
5 **A Well, it wouldn't be my opinion about any**
6 **legal standard. I don't think I made that**
7 **assumption. I don't recall using the phrase**
8 **"perfect correspondence" anywhere.**
9 Q And perfect correspondence, you
10 understand, is not required?
11 **A That's a question? I can assume that**
12 **it's not.**
13 Q And have you read the Fox Factory case
14 recently in preparation for your deposition?
15 MR. MESTITZ: Form.
16 **A I've read it and set eyes on it. I've**
17 **seen it at various points in time.**
18 Q Okay. So I could just tell you that the
19 Federal Circuit has said there's rarely a perfect
20 correspondence between the claimed invention and the
21 product.
22 All right? Are we on the same page?

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1 **A I'll accept that representation.**
2 Q Okay. And you have no reason to disagree
3 with the Federal Circuit on that?
4 **A Not if you're representing it --**
5 MR. MESTITZ: Form.
6 **A -- accurately and that needs to be**
7 **considered in context.**
8 Q And for purposes of your declaration, you
9 didn't assume there has to be a perfect
10 correspondence between the claimed invention and the
11 embodying product?
12 **A I don't see where I made that assumption.**
13 **I don't recall making that assumption either.**
14 Q Okay. Fox Factory also says, The degree
15 of correspondence between a product and a patent
16 claim falls along a spectrum.
17 Do you agree with that?
18 MR. MESTITZ: Objection to form.
19 **A Well, if that's an observation, I agree**
20 **with that. I'm not here to agree or disagree with**
21 **the law.**
22 Q In your declaration, did you consider

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1 where along the spectrum Spikevax and Comirnaty
2 fall?
3 MR. MESTITZ: Form.
4 **A Which spectrum are you referring to?**
5 Q So if there's a spectrum between
6 correspondence of the product and the patent -- do
7 you have that in mind?
8 **A A spectrum between what? What are the**
9 **two things on each end? Can you please clarify?**
10 Q Yes. Let's do a Venn diagram. So we've
11 got the claims of the patent on one hand --
12 **A Okay.**
13 Q -- and we have the product on the other
14 hand.
15 **A Okay.**
16 Q You didn't assume that they have to be a
17 perfect circle, right?
18 MR. MESTITZ: Asked and answered. But...
19 **A I don't think I wrote anywhere here that**
20 **I assumed they have to be a perfect circle.**
21 Q And if you put a spectrum between the
22 claims of the patent on one hand and the product on

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1 the other -- do you have that in mind?
2 **A Sure.**
3 Q Okay. You didn't analyze where along
4 that spectrum Spikevax and Comirnaty fall, right?
5 MR. MESTITZ: Objection to form.
6 **A In terms of -- in terms of what? Like --**
7 Q So the Federal Circuit talks about a
8 spectrum between a product and the patent claims in
9 terms of correspondence of the two.
10 Do you understand that?
11 **A Yeah, I'll accept that you're**
12 **representing that language accurately.**
13 Q And do you understand the concept of
14 correspondence between the patent claims and the
15 product?
16 **A I understand what you're trying to**
17 **illustrate.**
18 Q So you understand that you could have a
19 spectrum between -- a spectrum of correspondence
20 between the patent claims and the product?
21 **A Well, I know that from your**
22 **representation, that that's language that's used.**

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1 **I'm not sure that you're -- the illustration you're**
2 **drawing with your hands is completely accurate. But**
3 **I'm trying to follow along and answer your**
4 **questions.**
5 Q How would you describe the spectrum of
6 correspondence between patent claims and a product?
7 MR. MESTITZ: Objection to form.
8 **A As it's written in the case. They're**
9 **saying that there's different -- there's a range of**
10 **possibilities and that each case is fact and**
11 **circumstance specific.**
12 Q So on one end of the spectrum, you've got
13 perfect correspondence. Do you have that in mind?
14 **A Sure.**
15 Q On another end of the spectrum, they have
16 nothing to do with each other. All right?
17 MR. MESTITZ: Objection to form.
18 **A I can make that assumption, if that's**
19 **what you're asking me to assume.**
20 Q Okay. And you didn't analyze in your
21 declaration where on that spectrum Spikevax and
22 Comirnaty fall.

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1 Is that right, or am I missing it?
2 MR. MESTITZ: Objection to form.
3 **A So I'm not sure what you're illustrating**
4 **is exactly right. I do think that the technical**
5 **experts, specifically Dr. Griffin, has addressed**
6 **that. And I think that this is an instance where**
7 **there's multiple components and the products are**
8 **complex.**
9 **And I'm not sure that it fits to put it,**
10 **like, on the spectrum that you illustrated, but this**
11 **is more like a complex multicomponent vaccine, as I**
12 **wrote in my report and as Dr. Griffin has opined to,**
13 **than one like Mr. Malackowski described.**
14 Q What are the different components of the
15 vaccines that you're referring to?
16 **A So, for example -- and we can look at**
17 **different places in my report -- paragraph 80,**
18 **there's many significant unpatented features that**
19 **Dr. Griffin has described. I provide a description**
20 **of technologies that have been licensed in by both**
21 **companies as examples.**
22 **I think Dr. Griffin would also point to**

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1 **examples in the prior art and in the field in**
2 **general.**
3 **But I talk about the inventions of**
4 **Drs. Karikó and Weissman as being examples,**
5 **Cellscript and the NIH as being examples.**
6 **My understanding is that there's other**
7 **examples, as I write in my report on, say,**
8 **paragraph 104, page 54, technologies specific to**
9 **LNPs and lipid delivery systems. That is something**
10 **that Dr. Moon has addressed specifically.**
11 **I think that there's components that are**
12 **described in Moderna documents and in its forms 10-K**
13 **that I cite.**
14 **And then going beyond those, just**
15 **patented technologies, there's intangibles that are**
16 **significant here, and I discuss those in detail.**
17 Q So let's set aside the intangibles for
18 the moment.
19 In terms of the products themselves, what
20 are the multiple components, based on the sources
21 you just set out?
22 MR. MESTITZ: Form.

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1 **A I just listed some examples.**
2 Q Okay. So let's take Karikó and Weissman.
3 What's the component that you say they contributed
4 to the vaccines?
5 MR. MESTITZ: Form.
6 **A So that would come from Dr. Griffin.**
7 **He's the technical expert.**
8 **But my understanding is that their**
9 **technology relates to a specific modification, like**
10 **I described in paragraph 98.**
11 Q What was the contribution of the NIH?
12 MR. MESTITZ: Form.
13 **A So I described that in paragraph 102. It**
14 **relates to stabilization of the spike protein and**
15 **antigens. There's different patent rights there**
16 **that Dr. Griffin has identified and Moderna has**
17 **pointed towards.**
18 Q What was the contribution of Acuitas?
19 MR. MESTITZ: Form.
20 **A So my understanding is that that relates**
21 **to LNP technology, and there's technologies that are**
22 **applicable there, those being examples.**

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1 Q What's your understanding of what the
2 claims cover?
3 MR. MESTITZ: Form.
4 **A Of the patents in this case?**
5 Q Yes.
6 **A Let's see if I can find a good summary.**
7 **So in paragraph 57, the '600 patent**
8 **generally claims an mRNA encoding for a**
9 **betacoronavirus spike protein or spike protein**
10 **subunit formulated in a lipid nanoparticle.**
11 **There's additional things that I cite in**
12 **there in that part of my report, including in**
13 **paragraph 58.**
14 **And then my understanding is that the**
15 **'127 patent is substantially similar with the main**
16 **difference being that the '127 patent claims a**
17 **method of treatment by administering a vaccine**
18 **containing an LNP to induce an immune response.**
19 **That's among the things that I wrote**
20 **about, but that's generally my understanding.**
21 Q Okay. So your understanding of the
22 coverage of the '600 patent, at least claim 1, is

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1 that it includes mRNA, betacoronavirus spike protein
2 formulated in a lipid nanoparticle, right?
3 MR. MESTITZ: Form, asked and answered.
4 **A Well, that's a general description that I**
5 **have in paragraph 57. That's part of the**
6 **description. It goes on to -- in my report, and as**
7 **Dr. Griffin explained to me, there's a recitation to**
8 **a composition, as I wrote about in paragraph 58.**
9 Q So the composition is the composition of
10 mRNA encoding a betacoronavirus spike protein
11 encapsulated in an LNP.
12 Is that your understanding?
13 MR. MESTITZ: Form.
14 **A No. That's an example that I understand**
15 **is applicable, as I wrote in that paragraph.**
16 Q That's the composition of claim 1 of the
17 '600 patent, right?
18 **A There's a recitation to a composition in**
19 **claim 1.**
20 Q And what are the components of Spikevax
21 and Comirnaty that are not encompassed in that
22 composition of paragraph 58?

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1 MR. MESTITZ: Form, calls for a legal
2 conclusion.
3 **A So for that, I would defer to**
4 **Dr. Griffin.**
5 Q That's a technical question, right?
6 **A I think it's a technical question in**
7 **large part, yes.**
8 Q Okay. Back to the law on
9 coextensiveness. We're not done with that just yet.
10 If you want to look back at paragraph 65.
11 **A All right.**
12 Q You understand that coextensiveness is
13 not required for nexus, right?
14 **A I'm looking to see where I said that.**
15 **I'm not sure I said that. But that's consistent**
16 **with my understanding.**
17 Q Coextensiveness is a requirement for a
18 presumption of nexus, but not for nexus in general.
19 Is that fair?
20 **A Coextensiveness is a concept that's in**
21 **presumption of nexus. That's my understanding.**
22 Q Your declaration does not discuss the

122

1 other ways a patent owner can show nexus, right?
2 MR. MESTITZ: Objection to form.
3 **A I don't know what you mean.**
4 Q So let me step back a little bit.
5 Are you aware that a patent owner can
6 show nexus even without showing a presumption of
7 nexus?
8 **A I think that's true.**
9 Q And you didn't discuss in your
10 declaration any way to prove nexus if the
11 presumption of nexus does not apply, right?
12 MR. MESTITZ: Objection to form.
13 **A No, I don't agree with you.**
14 Q Where in your declaration do you discuss
15 the other ways of establishing nexus?
16 **A Well, so I refer to Mr. Malackowski's**
17 **report, and so I incorporate that by reference. I**
18 **don't have to repeat everything that he says.**
19 **I have paragraph 69 that says --**
20 **describes how market realities can impact an**
21 **assessment of whether a patented feature has a nexus**
22 **to commercial success.**

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1 **And I discuss some issues. I talk about**
2 **commercial success and nexus in paragraph 64 as**
3 **well.**
4 **Those would be a couple of examples.**
5 Q Your declaration focuses on presumption
6 of nexus, right?
7 MR. MESTITZ: Form.
8 **A I don't think so. I think it relates to**
9 **nexus.**
10 Q Well, that's what you say, right? I'm
11 trying to figure out where you feel that you've
12 addressed that so that we can talk about it.
13 So what are the other ways a patent owner
14 can establish nexus?
15 **A Well, you want to show, I think, at the**
16 **areas that Mr. Malackowski claimed, that he and I**
17 **addressed, where I think his analysis was**
18 **insufficient. I cite to his report at length. I**
19 **don't want to go into too much detail and take up**
20 **too much of your time.**
21 **But I understand that relevant**
22 **consideration is market realities and whether**

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1 **there's a connection specifically to the patented**
2 **inventions and the commercial success of the**
3 **products, if any.**
4 Q And what relationship do market realities
5 have to nexus?
6 MR. MESTITZ: Form.
7 **A Well, I think nexus, in terms of economic**
8 **connection, is to see if those market realities are**
9 **attributable specifically to the patented**
10 **inventions. I think I discuss that in numerous**
11 **places in my report.**
12 Q And is it your opinion that market
13 realities have to be attributable to the patented
14 invention?
15 MR. MESTITZ: Objection to form.
16 **A No. I think, though, that understanding**
17 **the market realities can be relevant to see if the**
18 **patented invention is what is responsible for the --**
19 **for any success that might be present.**
20 Q Okay. So a patent owner can show nexus
21 where the patented invention is responsible for
22 success of the product.

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1 Is that your understanding?
2 **A Well, I think that can be among the**
3 **considerations.**
4 Q Okay. And the patented invention doesn't
5 have to be entirely responsible for the success of a
6 product for there to be a nexus, correct?
7 **A I don't think that's -- I think that's**
8 **correct.**
9 Q Okay. Patent owners can show nexus where
10 objective indicia are reasonably commensurate with
11 the claims, right?
12 MR. MESTITZ: Form.
13 **A What do you mean by "reasonably**
14 **commensurate"?**
15 Q Do you have an understanding of what
16 "reasonably commensurate" means?
17 **A I'd want to see specifically what you're**
18 **referring to if you're using that. That sounds like**
19 **a term from a case or something, and I'd want to**
20 **know specifically what you are asking.**
21 Q You didn't take into consideration in
22 forming the opinions in your declaration what

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1 "reasonably commensurate" means in the context of
2 patent law?
3 MR. MESTITZ: Objection to form,
4 mischaracterizes the testimony.
5 **A No. I disagree. I'm asking you to**
6 **specify what you mean by that. I'm not saying that**
7 **I didn't take that into account. I'm asking you to**
8 **clarify your question.**
9 Q Did you take into account whether the
10 objective indicia are reasonably commensurate with
11 the claims?
12 MR. MESTITZ: Objection to form.
13 **A I think that, like, from an economic**
14 **point of view, that would correspond with my**
15 **analysis, without knowing specifically what it is**
16 **that you're -- why you're selecting that term or if**
17 **there's a case that you're referring to.**
18 Q Patent owners can show nexus where
19 evidence of objective indicia comes from the unique
20 features of a claimed combination, right?
21 **A Again, I need some context for that. I**
22 **think that that is potentially a consideration and**

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1 **would be something to look at.**
2 Q Patent owners can show nexus where others
3 in the field have made a prior innovation, right?
4 MR. MESTITZ: Form.
5 **A I think that depends. But I don't think**
6 **I'm disputing that.**
7 Q Okay. You don't dispute that patent
8 owners can show nexus where they have licensed other
9 technologies related to the embodying product,
10 right?
11 **A Can you ask the question again? I didn't**
12 **hear the beginning or I missed a couple words.**
13 Q You don't dispute that patent owners can
14 show nexus where they have licensed other
15 technologies related to the embodying product,
16 right?
17 **A I think that can be a possibility.**
18 Q You don't dispute that patent owners can
19 show nexus where the embodying product has multiple
20 components, right?
21 **A I think that's a possibility.**
22 Q You don't dis- --

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1 **A Without commenting on the law.**
2 Q You don't dispute that patent owners can
3 show nexus where the embodying product is the result
4 of research and development efforts, right?
5 **A I think that's among the possibilities.**
6 **I'm not taking any issues with the law.**
7 Q You don't dispute that patent owners can
8 show nexus where the embodying product has unique
9 supply chain requirements?
10 **A Again, I don't know that there's any**
11 **absolute rules. Every case is fact-specific. And**
12 **I'm not commenting on the law. So I'm not taking**
13 **issue with that in particular.**
14 Q You don't dispute that patent owners can
15 show nexus where multiple patents cover the
16 embodying product, right?
17 **A I think that's a possibility. I'm not**
18 **commenting on the law, but I don't think that any**
19 **one thing like that is dispositive.**
20 Q You don't dispute that patent owners can
21 show nexus where there are macroeconomic and
22 regulatory factors encouraging use of the embodying

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1 product?
2 **A I think that can -- I'm not saying**
3 **there's, like, an absolute rule that precludes the**
4 **showing of nexus, just like all these other things,**
5 **and I'm not taking any issue with the law. I think**
6 **every situation is specific and fact and**
7 **circumstance driven.**
8 MS. CURTIS: Thank you, sir. I have
9 nothing further at this time.
10 MR. MESTITZ: Let me just take two
11 minutes.
12 (Recess from 12:11 a.m. until 12:15 p.m.)
13 MR. MESTITZ: We can go back on the
14 record.
15 We have nothing.
16 I don't think there's anything in here
17 that requires designation as confidential.
18 MS. CURTIS: I agree.
19 COURT REPORTER: Anything else for the
20 record?
21 MS. CURTIS: I don't think so.
22 (Transcript orders discussed.)

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1 COURT REPORTER: Thank you. That's all I
2 need.
3 (Off the record at 12:17 p.m.)
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1 CERTIFICATE OF SHORTHAND REPORTER - NOTARY PUBLIC
2
3 I, Lisa V. Feissner, RDR, CRR and Notary
4 Public in and for the District of Columbia, do
5 hereby certify:
6
7 That W. CHRISTOPHER BAKEWELL, the witness
8 whose deposition is hereinbefore set forth, was duly
9 sworn by me before the commencement of such
10 deposition, and that such deposition was taken
11 before me and is a true record of the testimony
12 given by such witness.
13
14 I further certify that the adverse
15 parties, BIONTECH SE and PFIZER INC., were
16 represented by counsel at the deposition.
17
18 I further certify that the deposition of
19 W. CHRISTOPHER BAKEWELL, occurred at the offices of
20 WILLIAMS & CONNOLLY on THURSDAY, OCTOBER 3, 2024,
21 commencing at 9:05 and concluding at 12:17.
22

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1 I further certify that I am not related
2 to any of the parties to this action by blood or
3 marriage, I am not employed by or an attorney to any
4 of the parties to this action, and that I am in no
5 way interested, financially or otherwise, in the
6 outcome of this matter.
7
8 IN WITNESS WHEREOF, I have hereunto set
9 my hand this 3rd day of OCTOBER, 2024.
10
11
12 Lisa V. Feissner
13 NOTARY PUBLIC IN AND FOR
14 THE DISTRICT OF COLUMBIA
15 MY COMMISSION EXPIRES JUNE 15, 2028
16
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