

EXHIBIT 13

UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

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RALPH VARGAS and BLAND-RICKY)	
ROBERTS,)	
)	
Plaintiffs,)	
)	No. 04CV 9772
vs.)	(JCF)
)	
)	
PFIZER, INC.; PUBLICIS, INC.;)	
FLUID MUSIC; EAST WEST)	
COMMUNICATIONS, INC. and)	
BRIAN TRANSEAU, p/k/a "BT",)	
)	
Defendants.)	

Deposition of
STEVEN W. SMITH, Ph.D.

Tuesday, August 15, 2006

Reported by:

GEORGE SCHUMER, CSR

(01-384619)

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1 BE IT REMEMBERED that, pursuant to Notice of	1 AUGUST 15, 2006 10:23 A.M.
2 Taking Deposition, and on Tuesday, August 15, 2006,	2 THE VIDEOGRAPHER: Here begins Volume 1,
3 commencing at the hour of 10:20 a.m. thereof, at the	3 Videotape 1, in the deposition of Steven Smith, PhD,
4 Law Offices of Kirkland and Ellis, 555 California	4 in the matter of Ralph Vargas and Bland-Ricky Roberts
5 Street, 27th Floor, San Francisco, California, before	5 vs. Pfizer, Inc., et al., in the United States
6 me, George Schumer, a Certified Shorthand Reporter in	6 District Court, Southern District of New York, Case
7 and for the State of California, personally appeared	7 No. 04-CV-9772.
8 STEVEN W. SMITH, Ph.D.,	8 Today's date is August 15, 2006. The time on
9 called as a witness by defendant Transeau,	9 the video monitor is 10:23.
10 who, being by me first duly sworn, was thereupon	10 The video operator today is Ted Hoppe, a
11 examined and testified as hereinafter set forth.	11 Notary Public contracted by Legalink-Video Solutions,
12 ---	12 San Francisco, California. This video deposition is
13 KIRKLAND AND ELLIS, 555 California Street,	13 taking place at 555 California Street, San Francisco,
14 27th Floor, San Francisco, CA 94104, represented by	14 California.
15 CHRISTOPHER W. KEEGAN, Attorney at Law, appeared as	15 Counsel, could you please voice-identify
16 counsel on behalf of defendant Transeau.	16 yourselves, and state whom you represent?
17 415-439-1400 {ckeegan@kirkland.com}	17 MR. OLSON: David Olson, with the Center for
18 LAW OFFICES OF PAUL A. CHIN, 233 Broadway,	18 Internet and Society, and Stanford Law School,
19 5th Floor, New York, NY 10279, represented by PAUL	19 attorney for defendant Brian Transeau. And with me is
20 A. CHIN, Attorney at Law, appeared as counsel on	20 Panagiota Kelali, also with the Center for Internet
21 behalf of plaintiffs. 212-964-8030	21 and Society.
22 {lawyerchin@aol.com}	22 MR. CHIN: Paul Chin, the attorney
23 STANFORD LAW SCHOOL, 559 Nathan Abbot Way,	23 representing Ralph Vargas and Bland-Ricky Roberts, the
24 Stanford, California 94305, represented by DAVID S.	24 plaintiffs in this case.
25 OLSON, Attorney at Law, appeared as counsel on	25 THE VIDEOGRAPHER: The court reporter today is

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1 George Schumer of LegaLink-San Francisco. George,
 2 could you please swear the witness in?
 3 (Whereupon, STEVEN W. SMITH, Ph.D. was duly sworn)
 4 EXAMINATION BY MR. OLSON
 5 MR. OLSON: Q. Good morning, Dr. Smith.
 6 A. Good morning.
 7 Q. Let me start with a few preliminary matters.
 8 First off, I want to know if you have ever been
 9 deposed before.
 10 A. Yes, I have.
 11 Q. When was that?
 12 A. I have been deposed for three separate cases,
 13 one approximately a year ago; the other two within the
 14 last five years.
 15 Q. So you may remember the basics of how this
 16 process works; you probably do. But let me just go
 17 through a couple of things that will make the process
 18 go more smoothly.
 19 First, is there any reason you can't give full
 20 and truthful testimony today?
 21 A. No, there isn't.
 22 Q. Any prescription medication that might affect
 23 your ability to testify?
 24 A. No.
 25 Q. If you don't hear a question clearly that I

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1 ask you, will you please just let me know?
 2 A. Absolutely.
 3 Q. And if you don't understand a question I ask,
 4 will you let me know that?
 5 A. Certainly.
 6 Q. So if you answer a question, I'll assume you
 7 understood it and you are giving an answer to it. Is
 8 that fair?
 9 A. Yes, that's fair.
 10 Q. The other thing is that the court reporter is
 11 writing down, obviously, everything you say, and he
 12 cannot record nods of the head; shakes; and then
 13 uh-huh; uh-uh -- that can be hard to tell if that's a
 14 "yes" or "no" on the transcript. So you are already
 15 doing it, but if you will just continue to answer
 16 "yes" or "no," instead of making other answers that
 17 are harder to distinguish?
 18 A. Yes, I understand.
 19 Q. Finally, the other thing that is important,
 20 that we are doing very well so far, is we talk one at
 21 a time, so it all gets down on the record.
 22 With that, are you set to proceed?
 23 A. Yes, I am.
 24 Q. When you said you were deposed, you said you
 25 were deposed about a year ago.

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1 What was that case?
 2 A. That was a lawsuit involving a product that I
 3 performed some engineering on approximately ten years
 4 ago.
 5 Q. What was the nature of the lawsuit?
 6 A. This was a lawsuit against the California
 7 Department of Corrections, the prison system in
 8 California, regarding a security product which I
 9 developed in the mid-1990's. The lawsuit was an
 10 attempt to have those security systems removed from
 11 the prisons.
 12 Q. Were you a party in the suit?
 13 A. No, I wasn't.
 14 Q. Were you a fact witness?
 15 A. I don't know what that means.
 16 Q. Were you hired to give, and paid to give,
 17 expertise as to the system, similar to what you are
 18 doing here today?
 19 A. I was not paid, but that was the testimony I
 20 gave.
 21 Q. Were you asked about factual issues, about how
 22 your system worked or how you designed it? Any kind
 23 of things that you have personal knowledge of?
 24 A. Yes, exactly.
 25 Q. What was the conclusion of that lawsuit? If

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1 you know.
 2 A. The last time I heard, which was approximately
 3 nine months ago, 23 out of the 24 claims had been
 4 dismissed. I don't know the resolution on the final
 5 claim.
 6 Q. Do you know if the suit was in State or
 7 Federal court?
 8 A. I don't know.
 9 Q. Did you ever testify at trial in that suit?
 10 A. No, I didn't.
 11 Q. What did the security system that you designed
 12 in that lawsuit do?
 13 A. The device was referred to as The "Secure
 14 1000." It physically appears about the size of a
 15 large refrigerator. The person being screened stands
 16 in front of it for approximately five seconds; almost
 17 immediately an image appears on the computer monitor
 18 showing what the person has concealed under their
 19 clothing.
 20 Q. What technology does it use, to see what is
 21 under the clothing?
 22 A. A technique called back scatter x-ray imaging.
 23 Q. Was this being used on prisoners in the
 24 prisons?
 25 A. No, it was being used on visitors.

62	<p>1 materials from Mr. Chin, that are listed in your 2 expert report. 3 How did you begin your analysis? 4 A. I started by reading all of the material, with 5 a special emphasis on Dr. Boulanger's report. 6 At that time I scanned over Dr. Boulanger's 7 data, and identified in his data areas that I believe 8 the two musical sequences matched, and prepared the 9 short memo to Mr. Chin based on that information. 10 Q. How long did you spend in this initial 11 analysis? 12 A. Perhaps eight hours. 13 Q. If we look at Defendant Exhibit 38, which is 14 your invoice -- do you have that handy? 15 A. (Examining document) 16 Q. Do you see where at the top it is marked 17 "2-26-06"? 18 A. Yes. 19 Q. And it says: "Initial case review and 20 preparation of preliminary opinion," dated 2/26/06, 8 21 hours at \$250 an hour -- do you see that? 22 A. Yes. 23 Q. Does that correctly list the amount of time 24 that you spent analyzing this case, in preparing the 25 facts that you sent to Mr. Chin, which has been marked</p>	64	<p>1 You can answer. 2 THE WITNESS: I did a cursory examination of 3 the expert report, and identified a section of both 4 songs which matched. And those were included in my 5 memo. 6 And based on that single match, I reached the 7 preliminary conclusion that there was a copy involved. 8 MR. OLSON: Q. You say that was a preliminary 9 conclusion? 10 A. Yes. 11 Q. What made it preliminary? 12 A. Just the amount of time I had, in terms of 13 reviewing the information. 14 Q. Is Page 40-B of Defendant Exhibit 36 the 15 comparison you were just speaking about? 16 A. Correct. 17 Q. Tell me what this comparison is. 18 A. These are sections of two figures from 19 Dr. Boulanger's report: a section of Aparthenonia, 20 and a section of Funky Drummer -- showing the spectra 21 of those two musical sequences, with the notation I 22 have put in, with the arrows on the right, indicating 23 where the spectra match. 24 Q. And by "matching," you don't mean an identical 25 match; correct?</p>
63	<p>1 Defendant Exhibit 36? 2 A. Yes. 3 Q. After you prepared your fax, and sent it off 4 to Mr. Chin, what happened next? 5 A. Mr. Chin requested that I spend additional 6 time, and develop the full expert report. 7 Q. Did you agree to do so? 8 A. Yes. 9 Q. Did you have any restrictions on your time 10 that caused you concern, as to being able to do this? 11 A. I told Mr. Chin that my time was going to be 12 limited; that I could perhaps spend a few days on it. 13 I certainly couldn't spend a few weeks on it. 14 Q. You agree, don't you, that the overall methods 15 used by Boulanger are standard techniques in signal 16 analysis; is that right? 17 A. Yes. 18 Q. And you agree that the overall methods used by 19 Boulanger are appropriate for the analysis at hand in 20 this case? 21 A. Yes. 22 Q. What led you to believe, at the time of your 23 February 26 fax, that Aparthenonia -- at least in some 24 sections -- is a copy of Funky Drummer? 25 MR. CHIN: Objection.</p>	65	<p>1 MR. CHIN: Objection. 2 THE WITNESS: "Identical" is a relative term. 3 In my opinion, this is an excellent match. 4 MR. OLSON: Q. When I look at this figure, 5 the lines of the two, Figure 21 and Figure 22, I see 6 similarity. Correct? 7 A. Correct. 8 MR. CHIN: Objection. 9 You can answer. 10 THE WITNESS: Correct. 11 MR. OLSON: Q. But I can also distinguish 12 differences between Figure 21 and Figure 22, the 13 snippets you have here; correct? 14 MR. CHIN: Objection. 15 THE WITNESS: Correct. 16 MR. OLSON: Q. For instance, at the 1000 17 frequency hertz line, do you see in Figure 21 there is 18 a dark line there, that goes up at a slight angle 19 above horizontal? 20 A. I'm not sure which one you are referring to. 21 Q. Do you see where there's 1000 there, on the Y 22 axis? 23 A. Yes. 24 Q. And do you see the dark line beside that, the 25 fat dark line?</p>

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1 A. Yes.
 2 Q. And there is a matching -- or there is a
 3 similar fat, dark line or squiggle in Figure 22, that
 4 you were just pointing at; correct?
 5 A. Correct.
 6 Q. But those lines are not exactly the same;
 7 correct?
 8 MR. CHIN: Objection.
 9 THE WITNESS: They are not identical.
 10 MR. OLSON: Q. So I want to make sure we're
 11 clear, and I also want to save time, so I just want to
 12 make sure we have our terms down.
 13 I said earlier that they are not identical,
 14 and you said that was a relative term. Maybe you can
 15 help me come up with a term that we can use when we
 16 want to say that something does not look exactly like
 17 something else. For instance, if we made an overlay,
 18 it wouldn't be an exact overlay. Can you think of
 19 some term that would be useful to us both, so we don't
 20 get confused?
 21 MR. CHIN: Objection.
 22 You can answer.
 23 THE WITNESS: (No response)
 24 MR. OLSON: Q. We could use "identical" that
 25 way, if you are --

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1 A. Perhaps "exact copy."
 2 Q. So when I say "exact copy," what would that
 3 mean to you?
 4 A. By the term "exact copy," I would mean that
 5 one is completely indistinguishable from the other
 6 one.
 7 Q. That sounds good. And so then we, say, took
 8 the two squiggles, and laid one on top of each other,
 9 in exactly the right bias. Then one would completely
 10 cover the other, without sticking out anywhere.
 11 Right?
 12 MR. CHIN: Objection.
 13 You can answer.
 14 THE WITNESS: If they were exact copies, under
 15 the definition we're using of "exact copy."
 16 MR. OLSON: Q. Then that would be correct?
 17 A. Yes.
 18 Q. So can we, going forward, use "exact copy" as
 19 you have just defined it?
 20 A. Yes.
 21 Q. So when I say "exact copy," you know what I'm
 22 talking about now?
 23 A. Yes.
 24 Q. And I know what you are talking about.
 25 MR. CHIN: What is the definition for

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1 "identical"? Just so I know.
 2 MR. OLSON: That is a good question. I'm not
 3 sure we have one.
 4 MR. CHIN: Is "exact copy" --
 5 MR. OLSON: I'll ask Dr. Smith about it.
 6 Q. Would "identical" mean the same thing as
 7 "exact copy," Dr. Smith? When I say that, let me just
 8 say that for our purposes here today, your attorney,
 9 Mr. Chin, myself, you -- we all just want to make sure
 10 we're using the same terms.
 11 So when you use the term "identical" today --
 12 when we use the term, do you mean the same thing as
 13 "exact copy," or do you mean something else?
 14 A. I think it is sufficient to use one term, if
 15 we're going to define it as "exact copy." And I'll
 16 try to refrain from using the term "identical."
 17 Q. I think that will work.
 18 If we're talking about something that's not an
 19 exact copy, but is very close, we could call that, for
 20 instance, "very similar"; is that right?
 21 MR. CHIN: Objection.
 22 I would object. If you want to go off the
 23 record, we can probably come up with something we both
 24 could agree on, if that's necessary to you.
 25 MR. OLSON: I don't think so.

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1 MR. CHIN: Okay. I would object to the term
 2 "very similar."
 3 THE WITNESS: Well, it is a matter of
 4 definition. I mean a common, everyday usage of "very
 5 similar" could go all over the place, in terms of what
 6 the meaning of that is. I don't know if we can just,
 7 say, make a definition of something that is very
 8 similar, without expressing what kind of degree it is
 9 very similar.
 10 "Exact copy" is easier, because that's
 11 something that is very specifically defined.
 12 MR. OLSON: Q. When you do your scientific
 13 work, Dr. Smith, you commonly have to define your
 14 terms; right?
 15 A. Certainly.
 16 Q. So what I would like to do now is define a
 17 term that means two things are not exact copies, okay?
 18 But they may be very much alike.
 19 Is there a term that you would use for that?
 20 MR. CHIN: Objection.
 21 Maybe if we used percentages, David, that
 22 might work. He can give a percentage. In terms of
 23 percentages, these are -- blank-blank -- alike.
 24 MR. OLSON: I would rather see if Dr. Smith
 25 has a term that is a little less unwieldy.

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1 Q. Could you tell me all of the opinions that you
 2 are prepared to testify to at trial in this matter?
 3 A. Would you repeat that question?
 4 Q. Yes.
 5 What opinions do you plan to offer in this
 6 case?
 7 A. Two primary opinions. The first, that
 8 Dr. Boulanger's opinions, as expressed in his expert
 9 report, are flawed and incorrect.
 10 And the second opinion: that it is extremely
 11 likely; that the evidence is extremely strong, that
 12 Aparthenonia and Funky Drummer are electronic copies.
 13 Q. Have you ever listened to the audio tracks at
 14 issue in this case?
 15 A. Yes, I have.
 16 Q. When was that?
 17 A. That was part of the material that was
 18 provided to me by Mr. Chin, accompanying the
 19 declaration of Mr. Rodriguez.
 20 Q. So you listened to the CD's that came with
 21 Mr. Rodriguez's declaration?
 22 A. Yes.
 23 Q. Did listening to the CD's form any -- was that
 24 one of the bases for your opinions in this case?
 25 A. No.

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1 Q. And your conclusion as to your second opinion,
 2 that it is likely that Aparthenonia and Funky Drummer
 3 are copies -- I would like to ask you a question about
 4 that opinion; okay?
 5 MR. CHIN: Objection.
 6 You can answer.
 7 THE WITNESS: Yes.
 8 MR. OLSON: Q. That is based on similarities
 9 that you perceived in the data presented in
 10 Dr. Boulanger's report; correct?
 11 MR. CHIN: Objection.
 12 You can answer.
 13 THE WITNESS: I think it is more than
 14 similarities I perceived. I think I developed
 15 objective evidence that they were.
 16 MR. OLSON: Q. Your opinion, then, is based
 17 on what you have just referred to as "objective
 18 evidence of similarity between Aparthenonia and Funky
 19 Drummer"; is that correct?
 20 MR. CHIN: Objection.
 21 THE WITNESS: Yes.
 22 MR. OLSON: Q. Anything else that forms the
 23 basis of that second opinion?
 24 A. No.
 25 Q. You agree, don't you, that frequency spectra

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1 are a much more sensitive measure of the similarity of
 2 audio wave forms than hearing; correct?
 3 A. Yes, I would agree with that.
 4 Q. And you also agree that comparing the
 5 frequency spectra of Aparthenonia and Funky Drummer is
 6 an appropriate and powerful method of resolving if
 7 Aparthenonia is a digitally edited and/or manipulated
 8 copy of Funky Drummer; correct?
 9 A. Correct.
 10 Q. So you don't have an issue with the tools
 11 Dr. Boulanger chose to analyze the audio files;
 12 correct?
 13 A. Correct.
 14 Q. You think the methodology is okay; correct?
 15 A. The methodology, as far as preparation of the
 16 raw data, I have no objection to.
 17 Q. But it is the conclusions based on that data
 18 that you think are incorrect?
 19 A. That's correct.
 20 Q. Do you know the name of the -- I know it is
 21 referred to in Dr. Boulanger's report and your report
 22 as "Funky Drummer," but do you know the name of the
 23 plaintiffs' drum track that's at issue in this suit?
 24 A. Yes.
 25 Q. What is it?

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1 A. "Bust Dat Groove."
 2 Q. And are you familiar with that that comes from
 3 plaintiff's album Funky Drummer, Volume II?
 4 A. Yes.
 5 Q. Are you familiar that there are two audio
 6 tracks on Funky Drummer, Volume II, that both have
 7 Bust Dat Groove in their title?
 8 MR. CHIN: Objection.
 9 THE WITNESS: No, I wasn't familiar with that.
 10 MR. OLSON: Q. There is a file called "Bust
 11 Dat Groove," and there is a separate file called "Bust
 12 Dat Groove Without Ride." I will tell you that
 13 everyone agrees, and Mr. Vargas has testified, and
 14 everyone else, that it is Bust Dat Groove Without Ride
 15 that's the subject of this litigation. Okay?
 16 A. I understand.
 17 Q. And so when I refer to "Bust Dat Groove," I'm
 18 going to be referring to "Bust Dat Groove Without
 19 Ride." Okay?
 20 A. I understand.
 21 Q. And when you say "Bust Dat Groove," we will
 22 assume, unless you tell us otherwise, that you are
 23 referring to the track that's at issue in this case.
 24 Okay?
 25 A. Yes, absolutely.

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1 would still be exact copies.
 2 MR. OLSON: Okay, that's a good point. So let
 3 me try to be specific.
 4 Q. If an exact copy is made, it has to be made
 5 from an original; right?
 6 MR. CHIN: Objection.
 7 THE WITNESS: (No response)
 8 MR. OLSON: Q. And I understand the term
 9 "original" can be relative.
 10 MR. CHIN: Objection.
 11 MR. OLSON: Q. It has to be at least original
 12 to the copy; right?
 13 MR. CHIN: Objection.
 14 THE WITNESS: I'm not sure I fully understood
 15 the question. There is certainly the possibility that
 16 you could have an original, make an exact copy, and
 17 then make an exact copy of the exact copy, and end up
 18 with as many generations as you like of exact copies.
 19 MR. OLSON: Q. Maybe it is the term
 20 "original" that's getting us off here.
 21 If you have a copy of something --
 22 definitionally -- let me start again.
 23 Let's talk about a world of two things.
 24 There's an original CD, okay?
 25 A. Yes.

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1 Q. And there's a copy CD; okay?
 2 A. By that you mean an exact copy?
 3 Q. An exact copy, yes, thank you.
 4 Are you with me?
 5 A. Yes.
 6 Q. Good.
 7 That exact copy CD, every element in it comes
 8 from the original CD; correct?
 9 MR. CHIN: Objection.
 10 THE WITNESS: I would state that every element
 11 in that copy matches every corresponding element in
 12 the original. If you say, again, "comes from," you
 13 have the issues of perhaps they could be potentially
 14 re-created independently, without knowledge by each
 15 other.
 16 MR. OLSON: Q. But in the case I'm talking
 17 about, where we know we have made the copy from the
 18 original, then in fact the data in the copy did
 19 originate in the original; correct?
 20 A. Yes.
 21 Q. And if you have an exact copy of an original
 22 that was created by copying the original, there can't
 23 be any data in the exact copy that comes from a source
 24 other than the original. Correct?
 25 MR. CHIN: Objection.

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1 THE WITNESS: Correct.
 2 MR. OLSON: Q. In your Figure 1, you refer in
 3 your report to -- specifically to three parts of the
 4 wave form. Do you recall?
 5 A. At this moment, the number "three" doesn't
 6 cause any recollection.
 7 Q. Let me see if this helps.
 8 You talk about, in your report, what you
 9 labeled in your report as "AP-4"; correct?
 10 A. I certainly identify AP-4. I'm not familiar
 11 where I -- if you will give me a second to look
 12 through the report?
 13 Q. Sure. If you look on Page 4 of your report,
 14 at the last paragraph there, that may be helpful.
 15 A. Can you give me that reference again?
 16 Q. Page 4 of your report, the last paragraph.
 17 You can see that you are discussing there
 18 AP-12, FD-4, and FD-12; is that correct?
 19 MR. CHIN: I thought you said AP-4.
 20 MR. OLSON: Let's be clear.
 21 Q. In this paragraph you refer to AP-12; is that
 22 correct?
 23 A. That's correct.
 24 Q. FD-4?
 25 A. That's correct.

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1 Q. And FD-12?
 2 A. That's correct.
 3 Q. And those correspond to labels you have put on
 4 the wave forms in your Figure 1; correct?
 5 A. Correct.
 6 Q. Tell me, what are we looking at when we look
 7 at FD-4 in your Figure 1?
 8 A. FD-4 refers to an individual drum strike from
 9 Funky Drummer.
 10 Q. What type of drum is being struck?
 11 A. I don't know.
 12 Q. What are we looking at, when we look at FD-12
 13 from your Figure 1?
 14 A. We are looking at another drum strike from
 15 Funky Drummer, which visually appears to come from the
 16 same instrument as FD-4.
 17 Q. Are you certain that it comes from the same
 18 instrument?
 19 MR. CHIN: Objection.
 20 THE WITNESS: Certainly from looking at those
 21 wave forms, they appear extremely similar in
 22 characteristics, and their frequency spectra are
 23 extremely similar. I would find it unbelievable if
 24 they didn't come from the same instrument.
 25 MR. OLSON: Q. You would find it

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1 unbelievable?
 2 A. The evidence that they came from the same
 3 instrument would be overwhelming.
 4 Q. In looking at this figure.
 5 A. In looking at this figure, and also the
 6 spectral analysis in Figure 3 of my report.
 7 Q. In preparing your report, did you look at any
 8 wave form analysis of drum strikes, other than those
 9 in Dr. Boulanger's report?
 10 A. No.
 11 Q. Did you, say, take a number of wave form
 12 analyses of snare drum strikes, and determine how
 13 similar or different each one looked?
 14 A. No.
 15 Q. Did you take a Gretsch snare drum -- a wave
 16 form generated by a strike of a Gretsch snare drum --
 17 and a wave form generated by a Rogers snare drum, and
 18 check to see how similar those wave forms looked?
 19 A. No.
 20 Q. Can you tell me how similar a snare drum
 21 strike played on two different instruments should
 22 appear, when you look at the wave forms?
 23 MR. CHIN: Objection.
 24 You can answer.
 25 THE WITNESS: No, I can't.

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1 MR. OLSON: Q. Would you expect that two
 2 different snare drums, the wave forms for strikes on
 3 those drums should look somewhat similar?
 4 MR. CHIN: Objection.
 5 THE WITNESS: They should certainly look
 6 somewhat similar.
 7 MR. OLSON: Q. And that's because even though
 8 a snare drum can sound somewhat different, many people
 9 would still be able to recognize that even though they
 10 are two different instruments -- or different
 11 instruments -- they are still both snare drums. Is
 12 that right?
 13 MR. CHIN: Objection.
 14 THE WITNESS: I didn't understand that.
 15 MR. OLSON: Q. Do you know what a snare drum
 16 is?
 17 A. No, I don't.
 18 Q. Do you listen to any rock-and-roll music?
 19 A. Some.
 20 Q. When you had your band, did anybody play the
 21 drums?
 22 A. No.
 23 Q. Do you listen to any symphony music?
 24 A. Very little.
 25 Q. How about any music that has a cow bell?

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1 A. I don't even know if I know what a cow bell
 2 is. Sorry.
 3 Q. How about bongos? Do you know what bongos
 4 are?
 5 A. Yes, I know what bongos are.
 6 Q. Say you had two sets of bongos, and one was
 7 twice the size of another. They should sound
 8 different; right?
 9 A. Yes.
 10 Q. Yet they would still both sound like bongos;
 11 right?
 12 MR. CHIN: Objection.
 13 THE WITNESS: By definition.
 14 MR. OLSON: Q. By definition; correct?
 15 A. Correct.
 16 Q. And since they are both bongos, so they both,
 17 let's assume, have the same shape and specifications.
 18 One set of bongos are just bigger than the other;
 19 okay?
 20 A. Yes.
 21 Q. And visually that's how you would identify
 22 that, as smaller and larger bongos -- are both bongos,
 23 because despite being different size, they would both
 24 look like a bongo to you; correct?
 25 MR. CHIN: Objection.

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1 THE WITNESS: In general.
 2 MR. OLSON: Q. And you would expect them to
 3 make a certain kind of sound; right?
 4 MR. CHIN: Objection.
 5 THE WITNESS: I would expect them to both make
 6 bongo sounds.
 7 MR. OLSON: Right.
 8 Q. You wouldn't expect to strike a bongo and a
 9 flute note plays?
 10 A. Certainly.
 11 Q. And in fact, a drum strike sound is very
 12 different than a flute note being played.
 13 A. Yes.
 14 Q. And we would expect a flute note wave form and
 15 a drum strike wave form to look quite different from
 16 each other; correct?
 17 A. Correct.
 18 Q. And if we took two different bongos struck --
 19 made a strike on each of those -- we would expect that
 20 the wave forms between the bongos would be more
 21 similar to each other than they would be to a flute
 22 note wave form; correct?
 23 A. In general.
 24 Q. Can you think of a case where you could strike
 25 two different bongos, and come up with wave forms that

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1 THE WITNESS: No, I do not recognize the
 2 handwriting.
 3 MR. OLSON: Q. See, it looks like the same
 4 report to me, but I just saw your draft this morning,
 5 so I'm just wanting to understand if there's anything
 6 else that's changed.
 7 Do you know of anything else?
 8 A. No, it is my recollection that the only thing
 9 I changed was that spelling error.
 10 Q. Did Mr. Chin point out that spelling error to
 11 you?
 12 A. Yes, he did.
 13 Q. Did Mr. Chin make any comments on the
 14 substance of your report to you?
 15 A. No.
 16 Q. So then if we put aside your initial draft
 17 that's Defendant Exhibit 37, and just focus on your
 18 final draft, we should be focusing on the report that
 19 has all of your opinions in this case; right?
 20 A. Correct.
 21 Q. Let's do that, then.
 22 MR. CHIN: I'm sorry; are you referring to
 23 Defendant Exhibit 34?
 24 MR. OLSON: Yes.
 25 Q. Is that what you were referring to, Dr. Smith,

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1 as your final report?
 2 A. Yes.
 3 Q. If you look at Page 3 of Defendant Exhibit 34,
 4 your expert report, and you look down at the last
 5 paragraph -- do you see that there? It starts with
 6 "It also seems..."
 7 A. Yes.
 8 Q. Could you read that first sentence of the last
 9 paragraph?
 10 A. Certainly. "It also seems Dr. Boulanger has
 11 taken little effort to correct for factors that would
 12 make similar spectra artificially appear dissimilar."
 13 Q. Then the next sentence continues with: "For
 14 instance, matching the brightness contrast in his
 15 Figures 1 through 11, and 15-22;" -- correct?
 16 A. Correct.
 17 Q. What did you mean by, for instance, "matching
 18 the brightness and contrast" in those figures? Feel
 19 free to refer to Dr. Boulanger's report.
 20 A. If we refer back to Dr. Boulanger's report,
 21 all of the data he presents in those figures are in
 22 the form of images, and by "images," I mean that each
 23 point in the figure has a gray scale value somewhere
 24 between pure black and pure white.
 25 In order to be able to make a fair comparison

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1 between two things, using these two images, you need
 2 to display them with the correct shades, or comparable
 3 shades, of black and white -- which is referred to as
 4 contrast and brightness. If, for instance, one is
 5 being displayed as extremely brighter than the other,
 6 it would make it much more difficult in order to
 7 recognize if they were comparable or not, or identical
 8 or not.
 9 Q. Do you have any reason to think that Dr.
 10 Boulanger used different brightness or contrast
 11 settings in any of his figures?
 12 A. This is an area where I have considerable
 13 expertise, in image processing. My opinion would be
 14 that he did not intentionally adjust them to be
 15 different. My opinion is he just did not take the
 16 time in order to correct those differences in order to
 17 make it a fair comparison.
 18 Inherently they are going to come out of the
 19 software with different brightnesses and contrast
 20 levels, and if you don't correct them you are making
 21 an unfair comparison.
 22 Q. You say, "They are going to come out of the
 23 software with different levels." What is the "they"?
 24 A. The two spectra will come out -- let me
 25 correct that, or add to it.

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1 The two images presented in this fashion --
 2 and the two images being one, a spectrogram of one
 3 musical sequence; the other one being the spectrogram
 4 of the other musical sequence. Those two images, when
 5 they are processed through the software, will
 6 inherently have different brightness and contrast
 7 levels when you display them as images. And if you
 8 don't correct for those brightness and contrast levels
 9 -- which have been artificially introduced by the
 10 software process -- then you can't make a fair
 11 comparison.
 12 Q. Why would they have different brightness and
 13 contrast levels?
 14 A. Because the brightness and contrast is very
 15 dependent upon what the amplitude of the signal was
 16 coming into the software program.
 17 For instance, if you just turned the volume
 18 down slightly when one of the signals was being placed
 19 into the software program, it would come out as a much
 20 lighter shade of gray in the final image, than if the
 21 volume was turned up to a higher level.
 22 Q. What if Dr. Boulanger fed in the signals
 23 without going through a volume control, so directly
 24 from the file?
 25 MR. CHIN: Objection.

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1 THE WITNESS: It wouldn't make any difference.
 2 The two musical sequences would have to be matched in
 3 amplitude some way, in order to avoid having to adjust
 4 the image brightness and contrast. If they inherently
 5 came, for instance, from two different CD's, they
 6 would inherently not have the same amplitude, which
 7 would inherently result in different brightness levels
 8 of these graphics.
 9 MR. OLSON: Q. Can you determine, from
 10 looking at Dr. Boulanger's report, that he did not
 11 match the amplitudes going in?
 12 MR. CHIN: Objection.
 13 THE WITNESS: Yes, it is evident in Figure 1,
 14 where the actual wave forms are displayed below each
 15 spectra, that they do not have the same amplitude.
 16 MR. OLSON: Q. If you look at Figure 1 of Dr.
 17 Boulanger's report, if you look at the moment between
 18 .5 and .6 seconds -- do you see that sound that's
 19 represented there in the wave?
 20 A. Yes.
 21 Q. That's a fairly large -- one of the larger
 22 amplitudes shown in the wave; correct?
 23 A. Yes.
 24 Q. In both the Aparthenonia and the Funky Drummer
 25 loop; correct?

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1 A. Correct.
 2 Q. Is it from visually looking at, for instance,
 3 the wave form between .5 and .6 seconds, that you have
 4 told me the amplitudes are different?
 5 MR. CHIN: Objection.
 6 THE WITNESS: Yes, that is correct, and it is
 7 also consistent with the spectra being different
 8 brightnesses for those wave forms.
 9 MR. OLSON: Q. And the amplitude is the space
 10 between the top and the bottom of a wave; correct?
 11 A. That's a fair definition.
 12 Q. The amplitudes don't look very different to me
 13 on this. It looks like it takes up most of the space
 14 down at that little bar where we're both looking at on
 15 both; do you see that?
 16 MR. CHIN: Objection.
 17 THE WITNESS: I can tell there are differences
 18 in amplitudes in the wave forms.
 19 MR. OLSON: Q. Doesn't look like much of a
 20 difference to me. Is there much of a difference?
 21 MR. CHIN: Objection.
 22 THE WITNESS: Looks like it is approximately
 23 20 percent difference -- which would result in
 24 approximately a 20 percent difference in brightness in
 25 the spectra.

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1 MR. OLSON: Q. Now even if you have different
 2 brightness and -- let me back up.
 3 When you talk about brightness and contrast,
 4 you are talking of the visual image that is shown in
 5 the figures; right?
 6 A. Correct. Of the frequency spectra.
 7 Q. So it would be the same usage of brightness
 8 and contrast on a TV monitor, for instance.
 9 A. Yes.
 10 Q. Assume that the brightness and contrast levels
 11 are different; okay?
 12 A. Yes.
 13 Q. If there are different patterns --
 14 spectrographic patterns -- for each loop, you can
 15 determine that, even with different brightness levels;
 16 right?
 17 A. It certainly makes it much more difficult,
 18 especially when reviewing relatively small figures
 19 such as this.
 20 Q. For instance, if we look at Figure 2 -- I'm
 21 sorry; Figure 3 of Dr. Boulanger's report; Page 4 of
 22 his report: Putting aside whether there is a contrast
 23 difference, you can tell that the pattern -- do you
 24 see the darker coloration in kind of the middle, as
 25 you go across the X axis, in both the Aparthenonia and

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1 the Funky beat drum loops?
 2 A. Yes.
 3 Q. And if we are going from left to right, it is
 4 correct to say the dark area starts a little bit
 5 farther to the right in the Funky beat than in the
 6 Aparthenonia beat; correct?
 7 MR. CHIN: Objection.
 8 THE WITNESS: The way they are printed on the
 9 page that's correct.
 10 MR. OLSON: Q. And so even if in that case,
 11 there's some contrast or brightness difference, we're
 12 still able to visually determine a difference in the
 13 pattern there; correct?
 14 MR. CHIN: Objection.
 15 THE WITNESS: No, I would disagree. The
 16 difference in brightness is directly interfering with
 17 the ability to tell if those match.
 18 MR. OLSON: Q. Explain to me the difference.
 19 A. Looking in the lower figure, you can see, at
 20 the bottom of the gray-scale image, just above the
 21 time scale, there's a large area where it is
 22 completely washed-out white, where all the information
 23 has been completely removed. In my opinion that's
 24 just an artifact of the brightness being turned up too
 25 high, that is completely just washing the information

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1 out.
 2 You directly compare that to the information
 3 above where the information hasn't been washed out,
 4 they look completely different. But it is simply an
 5 artifact of the brightness not being the same.
 6 MR. OLSON: Q. I understand what you are
 7 saying right along the X axis, but as to where the
 8 dark spot in kind of the middle of each drum loop
 9 starts, we can both look at that and see that it
 10 starts more to the right in the Funky Drummer beat;
 11 correct?
 12 MR. CHIN: Objection.
 13 THE WITNESS: Yes, and that is also obvious in
 14 the time domain wave form shown below it, that it
 15 starts to the right.
 16 MR. OLSON: Q. When you talked about, in your
 17 report on Page 3, the brightness contrast factor,
 18 other than what we have now discussed, is there
 19 anything else that you were referring to in Dr.
 20 Boulanger's report?
 21 A. That is what I was referring to.
 22 Q. So we have just discussed everything you meant
 23 by referring to brightness and contrast in your
 24 report; right?
 25 A. Certainly not all of the implications for all

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1 of the graphics, but we have covered what I meant by
 2 that statement.
 3 Q. You are saying we could look at each figure
 4 and talk about what difference brightness and
 5 contrasts might make; is that what you are saying?
 6 A. Yes, just the implications of that problem for
 7 all the different figures.
 8 Q. Such as we did for Figure 3?
 9 A. Yes, in an analogous manner.
 10 Q. Now in your Page 3 -- that last paragraph
 11 basically you are talking about -- you are critiquing
 12 Dr. Boulanger's report; correct?
 13 A. Correct.
 14 Q. After you talk about brightness and
 15 contrast -- after that semicolon you are saying:
 16 "Comparing data on a like vertical scale as he has not
 17 done in Figures 25 and 26." Do you see that?
 18 A. Yes.
 19 Q. And that you are pointing out another problem
 20 with Dr. Boulanger's report. Correct?
 21 A. Correct.
 22 Q. Let's look at Figures 25 and 26 in Dr.
 23 Boulanger's report.
 24 A. (Examining document)
 25 Q. What did you mean when you are talking about

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1 Figures 25 and 26 in the last paragraph on Page 3 of
 2 your report?
 3 A. On Figures 25 and 26 if you just do a cursory
 4 examination, you would come to the conclusion that
 5 they are very different, because one has a much higher
 6 amplitude than the other. However, if you simply look
 7 over at the left side of the page, at the Y axis, you
 8 see they have just been placed on different scales.
 9 The upper figure -- the Figure 25 -- appears
 10 three times larger than the one in Figure 26, simply
 11 because the scale has been made three times larger.
 12 Q. And by that you are referring to -- the part
 13 you are talking about looking three times larger would
 14 be the main body of the pinkish color in each figure;
 15 right?
 16 A. That's correct.
 17 Q. If we look all the way over to the left, then
 18 we see kind of a tall spike of the pink color; right?
 19 A. Correct.
 20 Q. Now in that case there is a difference in the
 21 amplitudes; right?
 22 MR. CHIN: Objection.
 23 THE WITNESS: Yes, but that is an artifact of
 24 how auto correlation is conducted. It has no meaning.
 25 MR. OLSON: Q. What do you mean by that?

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1 A. Auto correlation is essentially a measure of
 2 how similar a signal is to itself. At 0 seconds, it
 3 is a measure of how similar a signal is to itself, and
 4 it can come out with unpredictable amplitude. It is
 5 not part of anything that can be used for comparison.
 6 Q. It appears to me that Figure 25 and Figure 26
 7 kind of choose their top value just above the top of
 8 the left-most pink spike. Does that seem right to
 9 you?
 10 A. Yes, it does.
 11 Q. And putting aside the confusion that might be
 12 caused in just glancing at the two figures, because
 13 the vertical scales are different -- I'm going to put
 14 that aside for a moment; okay?
 15 A. Yes.
 16 Q. Because you did more than just glance at these
 17 figures; right?
 18 A. Yes.
 19 Q. You looked at them carefully?
 20 A. Yes.
 21 Q. And you could see, for instance, that the
 22 amplitude in the main body of the pink color in the
 23 Figure 25 is not three times the amplitude of the main
 24 body of the pink in Figure 26; right?
 25 MR. CHIN: Objection.

158	<p>1 THE WITNESS: Yes. By "amplitude," you mean</p> <p>2 the actual amplitude of the signal, not just as it is</p> <p>3 printed on the page.</p> <p>4 MR. OLSON: Q. The real amplitude.</p> <p>5 A. Yes.</p> <p>6 Q. That's what you were referring to when you</p> <p>7 said it looked misleading that the amplitudes were</p> <p>8 different; correct?</p> <p>9 A. Correct.</p> <p>10 Q. But we can also see that even if you take into</p> <p>11 account the differences in the scale, there are other</p> <p>12 differences in Figure 25 and 26; correct?</p> <p>13 A. Yes.</p> <p>14 Q. For instance, there's information that appears</p> <p>15 in Figure 25, kind of between .00060, and the end of</p> <p>16 .00090 -- that does not appear in Figure 26; right?</p> <p>17 A. That's correct.</p> <p>18 Q. Likewise, to the right part of both figures,</p> <p>19 there appears to be information in Figure 25 that's</p> <p>20 not in Figure 26; correct?</p> <p>21 A. That's correct.</p> <p>22 Q. Did you read -- do you remember Dr. Boulanger</p> <p>23 stating that, "There's more information in the</p> <p>24 Aparthenonia track than in the Funky Drummer track"?</p> <p>25 A. Yes.</p>	160	<p>1 I should add to that: I have never heard the</p> <p>2 name of any one particular person doing that. It is</p> <p>3 my understanding that plaintiffs' position is that</p> <p>4 someone did that.</p> <p>5 MR. OLSON: Okay, thank you.</p> <p>6 Q. That one of the defendants, at least, did</p> <p>7 that?</p> <p>8 A. Yes.</p> <p>9 Q. If Aparthenonia has more spectral information</p> <p>10 than Funky Drummer, doesn't that mean that at least</p> <p>11 some part of Aparthenonia must come from a source</p> <p>12 other than Funky Drummer?</p> <p>13 MR. CHIN: Objection.</p> <p>14 THE WITNESS: Not necessarily.</p> <p>15 MR. OLSON: Q. Explain to me why that is not</p> <p>16 the case.</p> <p>17 A. For instance, if I refer to my Figure 1, in</p> <p>18 Aparthenonia the wave form I have labeled as AP-3 --</p> <p>19 which does not have any correspondence in Funky</p> <p>20 Drummer -- there is no FD-3 -- AP-3 does not</p> <p>21 necessarily have to come from some outside source. It</p> <p>22 could just be a modified version of one of the other</p> <p>23 drum strikes in Funky Drummer. In that case the</p> <p>24 frequency spectra would still be different, but yet it</p> <p>25 could still be derived entirely from Funky Drummer.</p>
159	<p>1 Q. What does that mean?</p> <p>2 A. I interpret that to mean that in the frequency</p> <p>3 spectra of the entire one-bar signals, he can see</p> <p>4 additional frequency spikes in the frequency spectra,</p> <p>5 and also presumably -- or obviously -- in the wave</p> <p>6 form such as in my Figure 1, you can see additional</p> <p>7 wave forms that appear in Aparthenonia that do not</p> <p>8 appear in Funky Drummer.</p> <p>9 Q. The plaintiffs say that Aparthenonia is a copy</p> <p>10 of Funky Drummer; correct?</p> <p>11 MR. CHIN: Objection.</p> <p>12 THE WITNESS: To my understanding, the</p> <p>13 plaintiffs say that it is an edited version of Funky</p> <p>14 Drummer.</p> <p>15 MR. OLSON: Q. Are you familiar with the</p> <p>16 plaintiffs' theory, that defendant Transeau made a</p> <p>17 copy of Funky Drummer?</p> <p>18 MR. CHIN: Objection.</p> <p>19 THE WITNESS: It is my understanding that that</p> <p>20 is the plaintiffs' position, yes.</p> <p>21 MR. OLSON: Q. And that he then took that</p> <p>22 copy and moved the beats around some; is that your</p> <p>23 understanding?</p> <p>24 MR. CHIN: Objection.</p> <p>25 THE WITNESS: Yes, that's correct.</p>	161	<p>1 Q. You did not find any drum strikes that were</p> <p>2 exact copies between Aparthenonia and Funky Drummer;</p> <p>3 correct?</p> <p>4 MR. CHIN: Objection.</p> <p>5 THE WITNESS: That is correct. But I also in</p> <p>6 my analysis do not believe that I could have possibly</p> <p>7 found exact copies.</p> <p>8 MR. OLSON: Q. Why is that?</p> <p>9 A. It is my understanding that the path that the</p> <p>10 two sound files came to be in this data included</p> <p>11 recording on vinyl or on tape -- which would at least</p> <p>12 add a small amount of noise.</p> <p>13 Q. Now I want to understand that.</p> <p>14 Are you aware that the plaintiffs say that</p> <p>15 Funky Drummer was only produced and sold as a vinyl</p> <p>16 album?</p> <p>17 MR. CHIN: Objection.</p> <p>18 THE WITNESS: No, I wasn't aware of that.</p> <p>19 MR. OLSON: Q. I'll tell you that they have</p> <p>20 testified to that, and I want you to assume that's</p> <p>21 true; okay?</p> <p>22 A. I understand.</p> <p>23 Q. Now the data that Dr. Boulanger reviewed was</p> <p>24 digital data; correct?</p> <p>25 A. Yes.</p>

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1 Q. So in the example that I just described, for
 2 each new beginning of the loop, the first drum strike
 3 would be an exact copy of the beginning of the
 4 previous loop; correct?
 5 A. Yes.
 6 Q. Now if Aparthenonia was created from Funky
 7 Drummer, as I have just asked you to assume it exists,
 8 you would expect to find direct copies in Aparthenonia
 9 from Funky Drummer; correct?
 10 MR. CHIN: Objection.
 11 THE WITNESS: Correct.
 12 MR. OLSON: Q. In your report, you don't
 13 point to any direct copies from Funky Drummer in
 14 Aparthenonia; correct?
 15 A. In my report I stated that I did not believe
 16 that there could be direct copies that exist. I
 17 didn't specifically look for direct copies, because I
 18 was under the assumption, very different than what we
 19 are now, about the nature of Funky Drummer being an
 20 exact copy between the various bars.
 21 Q. What was your assumption about Funky Drummer
 22 that you made, when you were performing your analysis?
 23 A. My assumption is that the 26 or 27 bars of
 24 Funky Drummer are associated copies, meaning that they
 25 were not exact duplicates of each other; that they

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1 were made by a drummer playing the bar over and over.
 2 Q. Even if the drummer played the bar over and
 3 over physically, there's a possibility that you would
 4 find a direct copy between Funky Drummer and
 5 Aparthenonia, if Aparthenonia is a copy; right?
 6 MR. CHIN: Objection.
 7 THE WITNESS: It is just on random chance, I
 8 in 26.
 9 MR. OLSON: Q. Did you look for any such
 10 direct copy?
 11 A. I didn't have any way of distinguishing what
 12 was a direct copy, versus an associated copy. What I
 13 was able to do was just make a comparison of how
 14 similar they were.
 15 Q. Is there anything you could do to determine
 16 whether there's a direct copy from Funky Drummer in
 17 Aparthenonia?
 18 A. I don't believe there is, based on the data
 19 directly, and Dr. Boulanger's report. Certainly if
 20 you were looking at all 26 bars, there would be the
 21 possibility of examining that data for it.
 22 Q. Now I want you to assume something different.
 23 I want you to go back to the assumption you had when
 24 you did your analysis, which is that Funky Drummer was
 25 created all by live drumming; okay?

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1 A. Yes.
 2 Q. And that means that the drummer, just from the
 3 beginning of Funky Drummer to the end, it is a drummer
 4 physically playing the pattern; right?
 5 A. Yes.
 6 Q. Not a digital loop that's repeating.
 7 A. Correct.
 8 Q. If Funky Drummer was played, and it is
 9 entirely physically by a drummer, then it is your
 10 opinion that if you compare any one bar of Funky
 11 Drummer to Aparthenonia, you may not find a direct
 12 copy; correct?
 13 A. Correct.
 14 Q. But if you were to look at all of Funky
 15 Drummer, then if Aparthenonia is a copy, you should
 16 find a direct copy in Aparthenonia from Funky Drummer;
 17 correct?
 18 MR. CHIN: Objection.
 19 THE WITNESS: There would have to be a direct
 20 copy present. Whether or not you could find it or not
 21 is another matter.
 22 MR. OLSON: Q. Let's start with what has to
 23 be present.
 24 Would every drum strike in Aparthenonia have
 25 to be a direct copy of some drum strike in Funky

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1 Drummer?
 2 A. If it was derived entirely from Funky Drummer.
 3 There's certainly the possibility of that additional
 4 content was added to Aparthenonia.
 5 Q. So then let's talk only about the parts of
 6 Aparthenonia that were allegedly created by copying
 7 Funky Drummer. Okay?
 8 A. Yes.
 9 Q. And so we'll put aside for now anything that
 10 may or may not have been added, okay?
 11 A. Yes.
 12 Q. For every drum strike in Aparthenonia that's
 13 allegedly a copy of a drum strike in Funky Drummer,
 14 there must be the relationship between source drum
 15 strike and direct copy; right?
 16 MR. CHIN: Objection.
 17 THE WITNESS: Yes.
 18 MR. OLSON: Q. Accordingly, if you looked at
 19 all the drum strikes in the totality of Funky Drummer,
 20 and even if a drummer physically played the whole drum
 21 track, you should be able to find a source for every
 22 direct copy in Aparthenonia; correct?
 23 MR. CHIN: Objection.
 24 THE WITNESS: Again, a source would have to be
 25 present. Whether or not you could find it is a matter

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1 of speculation, based on actually conducting the
 2 experiment.
 3 MR. OLSON: Q. For every piece of
 4 Aparthenonia that's allegedly copied from Funky
 5 Drummer, the source for that direct-copied piece must
 6 exist within Funky Drummer; correct?
 7 A. Correct.
 8 Q. Now you have said a few times "if you could
 9 find it." What do you mean by that?
 10 A. It would be my expectation that if we
 11 conducted this same kind of analysis of Dr. Boulanger,
 12 that we would find it, but without actually doing
 13 that, I don't know if doing that there would be other
 14 factors which would prevent you from finding it.
 15 Q. If you or Dr. Boulanger were to look at every
 16 drum strike in Funky Drummer, and you were unable to
 17 find any exact copies between Aparthenonia and Funky
 18 Drummer, would that change your opinion in this case?
 19 MR. CHIN: Objection.
 20 THE WITNESS: Not exact copies. If we were
 21 not able to find any direct copies it would certainly
 22 influence it.
 23 MR. OLSON: Q. I want to take both those in
 24 turn. I understand what you are saying, but let's
 25 just talk about exact copies first, all right? Using

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1 the definition we have agreed to of "exact copy."
 2 Okay?
 3 A. Yes.
 4 Q. If you were to look at every drum strike in
 5 Funky Drummer, and you could not find a single exact
 6 copy between Aparthenonia and Funky Drummer, would
 7 that affect your opinion in this case?
 8 MR. CHIN: Objection.
 9 THE WITNESS: No.
 10 MR. OLSON: Q. Not at all?
 11 A. No.
 12 Q. Now let's talk about direct copies.
 13 Well, first, I think it is clear, but could
 14 you state your definition of "direct copy"?
 15 MR. CHIN: Objection. Asked and answered.
 16 You can answer.
 17 THE WITNESS: A direct copy is a copy that
 18 also includes the effective noise.
 19 MR. OLSON: Q. So it is a copy from an
 20 original that has some differences from noise in the
 21 copying process; right?
 22 MR. CHIN: Objection.
 23 THE WITNESS: Yes. For instance, if there was
 24 a drum strike on a vinyl record, and I copied that
 25 into a digital medium, I would call those direct

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1 copies -- meaning there is some noise introduced into
 2 the process by the time it got to the digital signal.
 3 MR. OLSON: Q. So if you were to conduct an
 4 analysis of all the drum strikes in Funky Drummer, and
 5 couldn't find a single drum strike in Aparthenonia
 6 that was a direct copy of any drum strike in Funky
 7 Drummer, would that change your opinion in this case?
 8 MR. CHIN: Objection.
 9 THE WITNESS: Yes, if I was able to conclude
 10 that any of the potential matches I found were not
 11 direct copies. But deciding that something is a
 12 direct copy versus an associated copy would be a very
 13 difficult task -- an experiment I don't know if you
 14 could do that or not.
 15 MR. OLSON: Q. So you don't know, one way or
 16 another, if FFT would allow you to say when drum
 17 strikes copied from a vinyl album into a digital
 18 format are direct copies?
 19 MR. CHIN: Objection.
 20 MR. OLSON: Q. Is that right?
 21 A. That's correct. The only way you could
 22 actually tell is to actually do the experiment, and
 23 see how compelling the data are.
 24 Q. You have not done that experiment?
 25 A. I have not.

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1 Q. Would you like to do that experiment, as part
 2 of making your analysis in this case?
 3 MR. CHIN: Objection.
 4 THE WITNESS: I would have to evaluate how
 5 much of my time it would impact. I do not have a
 6 great deal of time that I can spend on the case, so I
 7 can't answer that now.
 8 MR. OLSON: Q. And you can't say that, for
 9 instance, AP-12, in your Figure 1, is a direct copy of
 10 FD-12; correct?
 11 A. No, I can't.
 12 Q. Or that AP-12 is a direct copy of FD-4;
 13 correct?
 14 A. I cannot say that.
 15 Q. If a listener can hear an audible difference
 16 between two drum strikes, would that affect your
 17 opinion of whether or not they can be direct copies?
 18 MR. CHIN: Objection. Asked and answered.
 19 You can answer.
 20 THE WITNESS: It would provide some evidence,
 21 but I don't think it would be conclusive.
 22 MR. OLSON: Q. Which way would that evidence
 23 point?
 24 MR. CHIN: Objection.
 25 THE WITNESS: If the listener can tell that

206	<p>1 A. No, I don't.</p> <p>2 Q. Would you expect them to?</p> <p>3 MR. CHIN: Objection.</p> <p>4 THE WITNESS: I would expect two individual</p> <p>5 snare drums to certainly have very similar spectra,</p> <p>6 but not identical.</p> <p>7 MR. OLSON: Q. In your report, you say that</p> <p>8 AP-12 of your Figure 1 is as similar to FD-4 and FD-12</p> <p>9 as FD-4 and FD-12 are to each other, right?</p> <p>10 A. Correct.</p> <p>11 Q. Let me ask you this: I want you to assume</p> <p>12 that you look at six more wave forms -- call them</p> <p>13 AP-12, A through F. Okay?</p> <p>14 A. Okay.</p> <p>15 Q. And I want you to assume that they have the</p> <p>16 same level of similarity to FD-4 and FD-12 as AP-12</p> <p>17 does; all right?</p> <p>18 A. All right.</p> <p>19 Q. If it were then shown to you conclusively that</p> <p>20 AP-12, A through E came from drums other than those on</p> <p>21 Funky Drummer, would that affect your opinion?</p> <p>22 MR. CHIN: Objection.</p> <p>23 THE WITNESS: If I understand the question</p> <p>24 right, the answer is "of course." Let me just</p> <p>25 reiterate my understanding, so that I make sure I</p>	208	<p>1 Dr. Boulanger's data.</p> <p>2 Q. So you have no idea, on average, how much</p> <p>3 difference you should expect to see in wave forms for</p> <p>4 a variety of, for instance, the same snare drum? Let</p> <p>5 me ask that question again. I think I just mucked it</p> <p>6 up at the end.</p> <p>7 In preparing your analysis, and forming your</p> <p>8 opinions in this case, you didn't look at the average</p> <p>9 level of similarity between different snare drums, did</p> <p>10 you?</p> <p>11 A. That's correct.</p> <p>12 Q. And you didn't look at the average differences</p> <p>13 and similarities to the wave forms of different high</p> <p>14 hats; correct?</p> <p>15 A. That's correct.</p> <p>16 Q. And you didn't look at how different or</p> <p>17 similar, on average, a kick drum wave form appears,</p> <p>18 in forming your analysis; correct?</p> <p>19 A. Correct.</p> <p>20 Q. You looked at the wave forms in Dr.</p> <p>21 Boulanger's report; correct?</p> <p>22 A. Correct.</p> <p>23 Q. And to your eye, some of the wave forms looked</p> <p>24 quite similar; right?</p> <p>25 MR. CHIN: Objection.</p>
207	<p>1 understand the question. We are saying if we have</p> <p>2 another complete, separate instrument, and we take the</p> <p>3 many wave forms from that instrument, and we look at</p> <p>4 those individual wave forms, and those wave forms are</p> <p>5 essentially indistinguishable from FD-4 and FD-12 --</p> <p>6 that would certainly affect my opinion.</p> <p>7 MR. OLSON: Q. How would it affect your</p> <p>8 opinion?</p> <p>9 A. It would mean that two separate instruments</p> <p>10 being played at different times by different drummers</p> <p>11 could produce spectra which were very similar -- as</p> <p>12 similar as FD-4 and FD-12 are from each other.</p> <p>13 Q. And correspondingly, your confidence that</p> <p>14 Aparthenonia is a copy of Funky Drummer would be</p> <p>15 affected; right?</p> <p>16 A. Yes.</p> <p>17 Q. In fact, you wouldn't be able to say with</p> <p>18 certainty at that point; correct?</p> <p>19 MR. CHIN: Objection.</p> <p>20 THE WITNESS: Yes, at the very least that</p> <p>21 would extremely weaken my conclusions.</p> <p>22 MR. OLSON: Q. And you didn't look at the</p> <p>23 typical differences between the wave forms for any</p> <p>24 drums as part of your analysis; right?</p> <p>25 A. No other drums besides what was actually in</p>	209	<p>1 THE WITNESS: At the least. I believe I also</p> <p>2 found objective similarities between them, rather than</p> <p>3 my just subjective comparison.</p> <p>4 MR. OLSON: Q. What are the objective</p> <p>5 similarities?</p> <p>6 A. The data shown in my Figure 2 and Figure 3.</p> <p>7 Q. Let's talk about your Figure 2.</p> <p>8 In your Figure 2, the dotted lines A, B and C</p> <p>9 represent differences in the two spectra; right?</p> <p>10 A. They represent possible differences.</p> <p>11 Q. Well, for instance, they don't look the same</p> <p>12 on the page at those points, do they?</p> <p>13 A. That's correct. However, they are consistent</p> <p>14 with a small amount of random noise being added to the</p> <p>15 spectra. And I do not believe those represent true</p> <p>16 differences between the two spectra.</p> <p>17 Q. Why do you not believe that?</p> <p>18 A. From my experience in looking at spectra and</p> <p>19 signals, that's exactly what you see if one of the</p> <p>20 signals or both the signals are contaminated with</p> <p>21 noise. Given the overwhelming similarity with those</p> <p>22 solid bars, my opinion is that those dotted lines are</p> <p>23 mainly artifacts from noise.</p> <p>24 Q. But you don't know personally whether any of</p> <p>25 those apparent differences in your A, B and C could be</p>

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1 the result of differences in snare drums?
 2 MR. CHIN: Objection.
 3 THE WITNESS: I have no reason to believe
 4 that. Based on the overwhelming evidence of the
 5 matches, I have certainly no reason to believe that,
 6 and would not expect it to be true.
 7 MR. OLSON: Q. But you don't know personally,
 8 one way or the other; right?
 9 MR. CHIN: Objection.
 10 THE WITNESS: I have never measured individual
 11 snare drums to know their similarities, so I can't
 12 answer that.
 13 MR. OLSON: Q. But you can answer that you
 14 don't have personal knowledge of how individual snare
 15 drums would look in comparison to each other, if you
 16 did a comparison like you show on Figure 2; right?
 17 A. Correct.
 18 Q. Now if I look over at 18, in your Figure 2 --
 19 Line 18 -- that looks a little different to me. There
 20 is a visual difference there; right?
 21 A. There is some visual difference.
 22 Q. And likewise at 14, the bottom one, the valley
 23 is a little fatter, and the top line the valley is a
 24 little narrower; right?
 25 A. Correct.

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1 Q. Likewise, 16: There's some visual difference;
 2 right?
 3 A. Correct.
 4 Q. Again, with 9 there is some visual difference.
 5 A. Correct.
 6 Q. And 8 I see some difference.
 7 A. Correct.
 8 Q. 6 I see difference in the width again.
 9 A. Correct.
 10 Q. And then in 4 I see some difference.
 11 A. Correct.
 12 Q. 2 there's a little bit of difference.
 13 A. Some amount.
 14 Q. In 13 there's some difference.
 15 A. Again, yes. All those consistent with a small
 16 amount of added random noise.
 17 Q. So your conclusion is that all of those visual
 18 differences we can see are the result of random noise?
 19 A. Yes.
 20 Q. And not the result of different drum sounds?
 21 A. Correct.
 22 Q. Why do you assume that?
 23 A. The differences we are seeing here are exactly
 24 what you would expect to see if there was a small
 25 amount of random noise on the signals, which if they

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1 originated as analog signals, there inevitably will
 2 be.
 3 Q. If you were to look at, say, thousands of drum
 4 loops, and do wave form analysis of them -- and I
 5 understand you have no interest in doing that; right?
 6 You are a busy man; right?
 7 A. That's correct.
 8 Q. But it would be possible to do that; right?
 9 A. Yes.
 10 Q. And if you looked at thousands of drum loops,
 11 you could do spectral analysis of all those drum
 12 loops; right?
 13 A. Yes.
 14 Q. And you could find, for each of those drum
 15 loops, the beats that were the most similar in each
 16 loop; right?
 17 MR. CHIN: Objection.
 18 THE WITNESS: I don't believe I understood
 19 that part of the question.
 20 MR. OLSON: Q. So if you take thousands of
 21 drum loops, and you wanted to -- for each drum loop
 22 find the drum strike that was most similar to a drum
 23 strike in Funky Drummer, you could do that; right?
 24 MR. CHIN: Objection.
 25 THE WITNESS: Yes, I'm assuming your question

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1 is the thousand drum strikes -- or excuse me. The
 2 thousand repeating patterns are from a thousand
 3 different drums.
 4 MR. OLSON: That's right.
 5 THE WITNESS: Yes.
 6 MR. OLSON: Q. Because, you know, even though
 7 you and I aren't music experts, we know that thousand
 8 of different drums must have been recorded over time;
 9 right?
 10 A. Certainly that's reasonable.
 11 Q. And I realize that some of the drum loops
 12 might not have beats that are very similar at all.
 13 But say you made it your assignment, or maybe giving
 14 it to a student, to say, "Find the most similar drum
 15 beat in each of these thousands of drum loops." Okay?
 16 A. Yes.
 17 Q. If you took and compared those most similar
 18 drum beats in the thousands of drum loops, would you
 19 be surprised if any of the spectral analysis resulted
 20 in something that's as close as AP-12 is to FD-12?
 21 MR. CHIN: Objection.
 22 THE WITNESS: Let me qualify the statement by
 23 reiterating that I have never conducted that
 24 experiment. So until you actually conduct the
 25 experiment, you never know.

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1 My expectation is that no, you would not find
 2 that close of a match, even with a thousand pieces of
 3 data.
 4 MR. OLSON: Sure.
 5 Q. And in fact, that expectation is one of the
 6 assumptions that's the basis for your conclusions in
 7 this report; right?
 8 MR. CHIN: Objection.
 9 THE WITNESS: Yes, it is.
 10 MR. OLSON: Q. If you assumed, out of these
 11 thousands of loops, a dozen would look as close as
 12 AP-12 does to FD-12, your conclusions would be
 13 different; right?
 14 A. That's correct.
 15 Q. Do you know if all snare drums share similar
 16 characteristics in the part of the spectrum that Dr.
 17 Boulanger looked at?
 18 MR. CHIN: Objection. Asked and answered.
 19 THE WITNESS: I have no idea.
 20 MR. OLSON: Why don't we take a short break?
 21 THE VIDEOGRAPHER: The time now is 5:17, and
 22 we are going off videotape record.
 23 (Recess taken, 5:17-5:29 p.m.)
 24 THE VIDEOGRAPHER: The time now is 5:29, and
 25 we are back on the videotape record.

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1 MR. OLSON: Can we go off the record?
 2 THE VIDEOGRAPHER: Sure. The time is now
 3 5:29, and we're going off the videotape record.
 4 (Discussion off the record)
 5 THE VIDEOGRAPHER: The time now is 5:31, and
 6 we're back on the videotape record.
 7 MR. OLSON: Welcome back, Dr. Smith.
 8 THE WITNESS: Thank you.
 9 MR. OLSON: Q. Are you familiar with the
 10 format the drum track files came in, that Dr.
 11 Boulanger used in his report?
 12 A. I believe he stated they were MP-3 files.
 13 Other than that, I don't have any information on it.
 14 Q. I can point out where he said that in his
 15 report. Or if you remember it, I don't have to. Do
 16 you remember for certain? If not, why don't you look
 17 at Page 1 at the bottom, Exhibit 35.
 18 A. Yes, he states MP-3 files.
 19 Q. So that means that the FFT analysis he did was
 20 based on those MP-3 files; right?
 21 A. That's my understanding.
 22 Q. When you put something into an MP-3 file, is
 23 MP-3 a compressed file format?
 24 A. I don't know for certain, but I can't imagine
 25 that it isn't. Let me restate that.

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1 I don't know.
 2 Q. I assume perhaps you assume it is, because,
 3 you know, for instance, that's what people use to mail
 4 around music files on the Internet.
 5 A. Yes, that's what people use compression for.
 6 Q. So assuming that MP-3 files are compressed,
 7 then -- okay?
 8 A. Yes.
 9 Q. When you compress, you lose some information;
 10 right?
 11 A. Generally.
 12 Q. And are you familiar with the fact that for
 13 the MP-3 file format, the algorithm is such that it is
 14 supposed to cut out some of the information that
 15 supposedly won't be missed by the human ear?
 16 A. I wasn't aware of that, no.
 17 Q. You don't know anything about the MP-3
 18 compression procedure?
 19 A. No, I don't.
 20 Q. Is it true, though, that if you analyze the
 21 tracks at issue in this case, in a non-compressed
 22 format, even more information would be available?
 23 MR. CHIN: Objection.
 24 THE WITNESS: Assuming that data is lost in
 25 the compression of the MP-3, yes.

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1 MR. OLSON: Q. And does it seem reasonable to
 2 think that data is not lost in compression?
 3 MR. CHIN: Objection.
 4 THE WITNESS: As I said, I'm not familiar with
 5 MP-3. My expectation is that it would be a lossy
 6 compression algorithm.
 7 MR. OLSON: Q. What is a lossy compression
 8 algorithm?
 9 A. It is a method of compression where
 10 information is lost.
 11 Q. You generally try to only lose what you
 12 consider the less important information; right?
 13 A. In general.
 14 Q. On Page 5 of your report, under the heading
 15 "Conclusions," the second sentence of that paragraph
 16 says, "My analysis of this is based almost solely on
 17 the data provided in Dr. Boulanger's report." Right?
 18 A. Correct.
 19 Q. Let me ask you -- I think we may have already
 20 established this, but is there, in fact, anything
 21 else, other than Dr. Boulanger's report, that forms
 22 the basis of your opinions in this case?
 23 A. Just as the general circumstances of the case.
 24 Nothing outside of Dr. Boulanger's report would change
 25 any of my conclusions.

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1 Q. But we did agree earlier that your assumption
 2 that it would be unlikely for other drum sounds to
 3 produce a figure as similar as AP-12 is to FD-12, in
 4 your Figure 1 -- had an effect on forming your opinion
 5 in this case? Right?
 6 MR. CHIN: Objection.
 7 THE WITNESS: Yes, and that would be outside
 8 the report.
 9 MR. OLSON: Q. Other than that, I don't think
 10 we talked about any other bases for your report. Can
 11 you think of any other bases for your opinions in this
 12 case?
 13 A. No.
 14 Q. Dr. Smith, I want to ask you if you are
 15 familiar with a psychic acoustic phenomena that occurs
 16 with human hearing, that results in low DB --
 17 low-frequency sounds -- being perceived as stronger
 18 than higher DB, higher-frequency sounds?
 19 A. No, I'm not.
 20 Q. Are you familiar with anything along those
 21 lines?
 22 A. No.
 23 MR. OLSON: Well, Dr. Smith, I believe that
 24 concludes my examination, at least pending any
 25 questions your attorney has for you. So I appreciate

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1 your time and testimony today. And I will now end my
 2 questioning and let your attorney, Mr. Chin, ask
 3 questions if he desires to.
 4 EXAMINATION BY MR. CHIN
 5 MR. CHIN: Dr. Smith, I get an opportunity now
 6 to ask questions that are related to some of the
 7 questions that Mr. Olson asked you during your
 8 deposition today.
 9 Q. First, what training or experience have you
 10 had in understanding the Fast Fourier Transform
 11 spectral analysis?
 12 A. I had three years of formal classroom training
 13 in graduate school in digital signal processing,
 14 approximately one-half of which involves Fourier
 15 transforms. I also have spent the last 20 years
 16 developing instrumentation, much of which uses Fourier
 17 transform techniques.
 18 I'm also the author of my textbook, of which
 19 approximately one-half of the 630 pages involves
 20 Fourier transforms.
 21 Q. So would you say that you are qualified to
 22 conduct the kind of analysis that you did with respect
 23 to Dr. Boulanger's report?
 24 MR. OLSON: Objection. Compound and leading.
 25 MR. CHIN: I'll rephrase.

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1 Q. Were you qualified to critique Dr. Boulanger's
 2 report?
 3 A. Yes, absolutely.
 4 Q. Were the conclusions and opinions in Dr.
 5 Boulanger's report based on his use of FFT, to compare
 6 Aparthenonia and Bust Dat Groove?
 7 A. In his report he stated his conclusions were
 8 based on his data.
 9 Q. Was there anything in his report which
 10 indicated that his conclusions were based on anything
 11 other than his comparison of Aparthenonia and Bust Dat
 12 Groove, using FFT?
 13 A. Not that I know of.
 14 Q. With respect to the document that's been
 15 marked as Defendant Exhibit 34, do you have it in
 16 front of you?
 17 A. Yes, I do.
 18 Q. Was this document prepared by you?
 19 A. Yes, it was.
 20 Q. Are the conclusions contained in this document
 21 your conclusions, and your conclusions alone?
 22 A. Yes, they are.
 23 Q. Are the opinions which are expressed in this
 24 document your opinions, and your opinions alone?
 25 A. Yes, they are.

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1 Q. With respect to the materials you reviewed,
 2 which are identified on Pages 1 and 2 of Defendant
 3 Exhibit 34, did any of the information contained in
 4 those materials form the basis of your conclusions in
 5 your report?
 6 MR. OLSON: Objection.
 7 THE WITNESS: Yes, they did.
 8 MR. CHIN: Q. Which ones were those, that
 9 assisted in forming the basis of your report?
 10 MR. OLSON: Objection.
 11 THE WITNESS: The overwhelming majority of the
 12 information I used in forming my opinions was Dr.
 13 Boulanger's report. I used the other material as a
 14 general overview of the goings-on of the case.
 15 MR. CHIN: Q. Do you believe that primarily
 16 relying on the information contained in Dr.
 17 Boulanger's report was sufficient for you to come up
 18 with your opinions and conclusions in your own report?
 19 MR. OLSON: Objection. Leading; compound.
 20 THE WITNESS: Yes, I believe it was.
 21 MR. CHIN: Q. In reviewing the data collected
 22 by Dr. Boulanger in his report, do you have any reason
 23 to believe that he excluded any data which could have
 24 assisted him in coming up with any other conclusion
 25 than the ones he reached in his report?

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1 MR. OLSON: Objection. Vague and compound.
 2 THE WITNESS: I don't believe Dr. Boulanger's
 3 conclusions follow from any of his data, so I can't
 4 answer the question of how additional data would cause
 5 him to reach any other conclusions.
 6 MR. CHIN: That's a good point. Let me ask
 7 you some questions about that.
 8 Q. You talked earlier about the fact that the
 9 brightness and contrast in his figures on, I think,
 10 Dr. Boulanger's Figure 1 -- could you tell me again
 11 the importance of Dr. Boulanger's failure to compare
 12 Aparthenonia and Bust Dat Groove in the same
 13 brightness context?
 14 MR. OLSON: Objection. Assumes facts not in
 15 evidence; misstates the record; compound; leading, and
 16 vague.
 17 THE WITNESS: Dr. Boulanger offers the
 18 conclusion that the two spectra do not match, and
 19 therefore one of the musical sequences is not a copy
 20 of the other. That implies he looked for matches in
 21 the spectra.
 22 In order to do a proper scientific
 23 investigation of looking for matches, it is necessary
 24 to try and compare the data in like manners. By not
 25 adjusting the brightness and contrast, you certainly

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1 cannot compare the data in a like manner.
 2 MR. CHIN: Q. So if you were the expert
 3 assigned to conduct the kind of analysis that Dr.
 4 Boulanger conducted, is it your testimony that you
 5 would have compared the spectra in the same form, that
 6 is, in the same brightness and the same contrast,
 7 as -- to each other?
 8 MR. OLSON: Objection.
 9 THE WITNESS: Yes, absolutely.
 10 MR. CHIN: Q. In your opinion, why do you
 11 believe that Dr. Boulanger did not compare the spectra
 12 content of Aparthenonia and Bust Dat Groove in the
 13 same brightness and same contrast?
 14 MR. OLSON: Objection to form; leading.
 15 THE WITNESS: His not comparing those
 16 particular graphs in the same brightness is
 17 symptomatic of his entire report, where he did not
 18 compare any of the data in a fair comparison.
 19 MR. CHIN: Q. You also indicated that Dr.
 20 Boulanger compared the two compositions in question at
 21 different amplitudes, as indicated on Figure 1; is
 22 that correct?
 23 A. Yes, that's correct.
 24 Q. Again, why is that important, if it is
 25 important at all?

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1 A. It has minor importance. It goes to the issue
 2 of the amplitudes being different result in the
 3 spectra being different brightnesses -- as we have
 4 discussed the importance of that.
 5 Q. New throughout Mr. Olson's questioning of you,
 6 he presented you with many different hypotheticals.
 7 He asked you if additional information was provided,
 8 would your conclusions be different.
 9 With respect to those questions, if there was
 10 additional information that could more conclusively
 11 prove the opinions represented by Dr. Boulanger in his
 12 report, do you know of any reason why he would not
 13 have included that additional information in his
 14 report?
 15 MR. OLSON: Objection to the form, and calls
 16 for speculation.
 17 THE WITNESS: I have no reason to know why he
 18 would not include additional information.
 19 MR. CHIN: Q. When you read Dr. Boulanger's
 20 report, what, if any, opinion did you have with
 21 respect to the information available to Dr. Boulanger
 22 in order to conduct the analysis that he did in his
 23 report?
 24 MR. OLSON: Objection to the form.
 25 THE WITNESS: It appeared to be sufficient.

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1 He had the access to the raw data files. He had
 2 access to sufficient software packages to conduct an
 3 appropriate FFT analysis.
 4 MR. CHIN: Q. Mr. Olson asked you whether or
 5 not you had any discrepancy with the methodology used
 6 by Dr. Boulanger, with which he used to reach his
 7 conclusion, and you indicated that you did not. Is
 8 that correct?
 9 MR. OLSON: Objection to the form.
 10 THE WITNESS: In general that's correct.
 11 MR. CHIN: Q. Would it be more accurate to
 12 say that Dr. Boulanger's decision to use an FFT
 13 analysis, to compare Aparthenonia to Bust Dat Groove,
 14 was a good process to conduct a comparison of the
 15 similarity between the two?
 16 MR. OLSON: Objection. Compound; leading.
 17 THE WITNESS: Yes, I believe the general
 18 approach that Dr. Boulanger used, in terms of using
 19 the FFT analysis, was appropriate to resolve the
 20 question at hand.
 21 MR. CHIN: Q. But in terms of his process in
 22 actually going through and appropriately comparing
 23 Aparthenonia and Bust Dat Groove, using the FFT
 24 analysis -- you found some flaws in that approach?
 25 MR. OLSON: Objection to the form. Leading.

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1 THE WITNESS: Absolutely.
 2 MR. CHIN: Q. And you indicated that you
 3 wrote a book in which you discussed at length Fast
 4 Fourier Transform; is that correct?
 5 MR. OLSON: Objection. Asked and answered.
 6 Objection to the form.
 7 THE WITNESS: Yes.
 8 MR. CHIN: Q. That book was written in 1997?
 9 A. Correct.
 10 Q. Has the process with which Fast Fourier
 11 Transform is analyzed, and the information deciphered,
 12 changed since then?
 13 MR. OLSON: Objection. Foundation; to form.
 14 THE WITNESS: No.
 15 MR. CHIN: Q. Now Mr. Olson asked you to give
 16 him certain definitions, with respect to what is an
 17 exact copy, and what is -- and its difference with a
 18 not-exact copy.
 19 Do you recall those questions?
 20 A. Yes, I do.
 21 Q. Can something be almost identical, but not be
 22 an exact copy of something else?
 23 MR. OLSON: Objection.
 24 THE WITNESS: Certainly.
 25 MR. CHIN: Q. For example, I want to show

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1 you -- do you have this? Defendant Exhibit 38.
 2 A. (Examining document)
 3 Yes, I do.
 4 Q. Now you have Defendant Exhibit 38 in front of
 5 you; correct?
 6 A. Yes, I do.
 7 Q. And then I have a copy of a document
 8 Bates-stamped 00042. Do you see that?
 9 A. Yes.
 10 Q. Now is Defendant Exhibit 38 similar to
 11 document Bates-stamped 42?
 12 A. Yes, extremely similar.
 13 Q. But they are not an exact copy, are they?
 14 A. The information printed on the page is the
 15 same, but certainly you can detect defects in the
 16 paper and in the printing. So no, they would not be
 17 an exact copy, according to how we define that term.
 18 Q. For example, on Defendant Exhibit 38, there is
 19 a little sticker that says "Defendant Exhibit 38"; is
 20 that correct?
 21 A. Yes, there is.
 22 Q. There is no such sticker on this document
 23 Bates-stamped 42, is there?
 24 A. No, there is not.
 25 Q. And on this document Bates-stamped 42 -- has

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1 in handwriting "Def Ex 38"; is that correct?
 2 A. Yes, it is.
 3 Q. But there is no such writing on Defendant
 4 Exhibit 38; is that correct?
 5 A. That's correct.
 6 Q. Now how would you describe the similarities
 7 between Defendant Exhibit 38 and the document in front
 8 of you that's Bates-stamped 42?
 9 MR. OLSON: Objection. Could I hear the
 10 question?
 11 (Record read)
 12 THE WITNESS: In general I would describe them
 13 as being extremely similar, with some small
 14 differences.
 15 MR. CHIN: Q. Would you say that the document
 16 Bates-stamped 42 is an exceptional match to Defendant
 17 Exhibit 38?
 18 MR. OLSON: Objection.
 19 THE WITNESS: I would say it is an exceptional
 20 match to most of what is in Defendant Exhibit 38,
 21 although there are some items that you pointed out
 22 which clearly don't match.
 23 MR. CHIN: Q. And the existence of those
 24 items that clearly don't match: Does that mean that
 25 Defendant Exhibit 38 is not a copy of the document

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1 identified as Bates-stamp 42?
 2 MR. OLSON: Objection.
 3 THE WITNESS: In my opinion it is a copy, what
 4 in normal everyday use of the word "copy," people
 5 would use as a copy.
 6 MR. CHIN: Q. I want to go to your report.
 7 On Page 3 of your report, which is identified
 8 as Defendant Exhibit 34, you have at the top -- it
 9 says "Comparing Apples With Oranges."
 10 What do you mean by that?
 11 A. Meaning that in his report, Dr. Boulanger did
 12 not compare like things with like things in the data.
 13 He compared like things with unlike things in the
 14 data.
 15 Q. What significance, if any, does that have on
 16 the conclusions in his report?
 17 A. The majority of his graphics are comparing
 18 apples with oranges, which means that any conclusions
 19 reached from those are meaningless, because you -- it
 20 is obvious that what he is comparing is not the same.
 21 So the conclusion that the Fourier analysis
 22 shows that they are not the same -- it is meaningless.
 23 Q. And then in the next heading it says -- on
 24 Page 3 it says "Questionable Subjective Conclusions,"
 25 and what do you mean by that?

<p style="text-align: right;">230</p> <p>1 A. In many instances Dr. Boulanger simply made 2 the statement that two spectra did not match -- 3 apparently based on his subjective observation or 4 conclusion that the two did not match. Simply looking 5 at them, I did not find any evidence at all that they 6 didn't match. In many cases my subjective conclusion 7 would be that they matched very well, simply by 8 looking at them.</p> <p>9 Q. What about: Did you reach any objective 10 conclusion about the similarities between the two 11 compositions?</p> <p>12 MR. OLSON: Objection to the form; leading.</p> <p>13 THE WITNESS: Yes, I believe I did, and I 14 expressed those in my Figures 2 and 3.</p> <p>15 MR. CHIN: Q. Let's take a look at Figure 2. 16 In Figure 2, the dotted lines A, B and C 17 represent possible features that do not match in the 18 two compositions; correct?</p> <p>19 A. Correct.</p> <p>20 Q. Could the reason why these spectra at A, B and 21 C do not match be the result of something that was 22 included in one of the compositions, that was not 23 included in the other?</p> <p>24 MR. OLSON: Objection. Vague; compound; 25 leading.</p>	<p style="text-align: right;">232</p> <p>1 that the slight differences in these two spectra to be 2 consistent with a noise level of perhaps 2 to 5 3 percent.</p> <p>4 MR. CHIN: Q. Now there was some questioning 5 by Mr. Olson with respect to the amount of information 6 that you did not include in your Figure 2, that did 7 appear in Figures 33 and 34. Do you recall those 8 questions?</p> <p>9 A. Yes.</p> <p>10 MR. OLSON: Can I hear that question? 11 (Record read)</p> <p>12 MR. OLSON: Thank you.</p> <p>13 MR. CHIN: Q. And you indicated that it was 14 your decision to leave out approximately 1 percent of 15 the signal power that appears in Dr. Boulanger's 16 Figures 33 and 34, that do not appear in your Figure 17 2; is that correct?</p> <p>18 MR. OLSON: Objection. Leading; to the form.</p> <p>19 THE WITNESS: Correct.</p> <p>20 MR. CHIN: Q. By eliminating that 1 percent, 21 is that somehow outside the standard practice, in 22 order to conduct an FFT analysis?</p> <p>23 MR. OLSON: Objection. Foundation; form; 24 leading.</p> <p>25 THE WITNESS: No, I believe that's very</p>
<p style="text-align: right;">231</p> <p>1 THE WITNESS: It is conceivable, but I highly 2 doubt it. The three features I have identified as A, 3 B and C are absolutely consistent with a small amount 4 of random noise added to one of the spectra -- which I 5 have seen in many, many cases before.</p> <p>6 MR. CHIN: Q. You said that the Figure 2 is 7 derived from Dr. Boulanger's Figures 33 and 34; 8 correct?</p> <p>9 A. Yes.</p> <p>10 Q. Do you know whether or not amplitude played a 11 part in the differences or the slight differences in 12 the graphs identified in Figure 2?</p> <p>13 A. No, it didn't. I adjusted for the factors 14 which would be related to amplitude.</p> <p>15 Q. So the slight differences that Mr. Olson went 16 through, that is, the differences he identified in, 17 for example, 14 and 2, and 9 -- those differences are 18 slight?</p> <p>19 A. Yes, those differences are slight. And in my 20 opinion are a result of random noise.</p> <p>21 Q. In terms of percentages, how similar, then, 22 would be the spectra in No. 4?</p> <p>23 MR. OLSON: Objection. Vague; leading.</p> <p>24 THE WITNESS: I don't know if I can answer 25 that question directly, except to say I would expect</p>	<p style="text-align: right;">233</p> <p>1 appropriate for this kind of analysis.</p> <p>2 MR. CHIN: Q. And so in Figure 2 of your 3 report, these solid bars which are numbered 1 through 4 19: What do they represent?</p> <p>5 A. They represent matches which I identified 6 between the two spectra.</p> <p>7 Q. And A, B and C represent possible features 8 that do not match; is that correct?</p> <p>9 MR. OLSON: Objection. Leading; form.</p> <p>10 THE WITNESS: Yes.</p> <p>11 MR. CHIN: Q. What, if any, conclusion did 12 you come to, with respect to the information contained 13 in your Figure 2?</p> <p>14 A. That the frequency analysis of Aparthenonia is 15 overwhelmingly similar to the frequency spectra of 16 Funky Drummer for this particular beat.</p> <p>17 Q. Turn to your Figure 1. 18 Is there any drum strike which occurs in Funky 19 Drummer, that does not also occur in Aparthenonia?</p> <p>20 MR. OLSON: Objection. Leading; form.</p> <p>21 THE WITNESS: I don't know.</p> <p>22 MR. CHIN: Q. The reason why I ask is because 23 in Aparthenonia you have AP-3, but no corresponding 24 AP-4. And then you have AP-5, and then no 25 corresponding FD-5.</p>

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1 MR. OLSON: Objection. Misstates the
 2 document.
 3 MR. CHIN: I'm sorry; let me restate.
 4 Q. In Figure 1 you have AP-3 but no corresponding
 5 FD-3, and then in Aparthenonia you have AP-5, but no
 6 corresponding FD-5.
 7 A. That's correct.
 8 Q. And so but for FD-1 through FD-12, you have
 9 corresponding strikes in AP-1 through AP-12; is that
 10 correct?
 11 MR. OLSON: Objection. Form; leading.
 12 THE WITNESS: Yes, that's correct. However,
 13 in Funky Drummer, the number is not sequential. For
 14 instance, there is no FD-3 in Funky Drummer.
 15 MR. CHIN: Right.
 16 THE WITNESS: But for every wave form shown in
 17 Funky Drummer, there is a corresponding wave form
 18 shown in Aparthenonia.
 19 MR. CHIN: Q. So based on that information,
 20 is it possible to conclude that Aparthenonia contains
 21 all of the drum strikes identified from FD-1 through
 22 FD-12?
 23 MR. OLSON: Objection. Continuing to lead;
 24 compound. Objection to the form.
 25 THE WITNESS: I did not evaluate each of the

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1 individual drum strikes in Aparthenonia, so I do not
 2 know whether each of the individual drum strikes in
 3 Aparthenonia has a corresponding drum strike in Funky
 4 Drummer.
 5 MR. CHIN: Q. On your Figure 3, in your
 6 report on Page 8, what is the significance of Figure
 7 3, if any?
 8 A. What I was trying to accomplish in Figure 3
 9 was to change a subjective judgment into an objective
 10 judgment.
 11 For instance, in my first memo that I sent to
 12 you, I simply showed two spectra side by side, with my
 13 conclusion that they matched. What I have tried to do
 14 here is show that it is an impossible task for a
 15 person to pick out which of the three spectra is
 16 different -- which indicates that one of the drum
 17 strikes from Aparthenonia is a similar to the drum
 18 strikes in Funky Drummer, as the drum strikes are
 19 similar to within Funky Drummer -- which therefore
 20 changes it into the objective information that these
 21 are indistinguishable.
 22 Q. And if Funky Drummer was created before
 23 Aparthenonia, what conclusion would you come to, based
 24 on that additional information?
 25 MR. OLSON: Objection to the form.

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1 THE WITNESS: I would conclude that
 2 Aparthenonia is an electronic copy of Funky Drummer,
 3 with the certainty that if that conclusion was not
 4 true, it would require a different drummer, using a
 5 different drum at a different point in time, being
 6 able to create a drum strike which is similar as the
 7 successive drum strikes in Funky Drummer.
 8 MR. CHIN: Q. In Dr. Boulanger's report, do
 9 you recall whether or not he did a comparison of the
 10 similarities between two drum strikes on two different
 11 snare drums?
 12 MR. OLSON: I'm sorry. May I have that
 13 question again?
 14 (Record read)
 15 MR. OLSON: Objection. Vague.
 16 Give it a shot, if you can.
 17 THE WITNESS: He did not, in his report -- he
 18 did not report any testing about what the similarity
 19 of the drum strikes on two different drums would look
 20 like, other than the data that he presents in his
 21 report, which he indicates came from two different
 22 drums.
 23 MR. CHIN: Q. You are aware that it is
 24 plaintiffs' position that Aparthenonia is a digitally
 25 and/or manipulated copy of Bust Dat Groove; correct?

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1 A. Yes.
 2 Q. If you were provided with a CD which
 3 rearranged Bust Dat Groove in a way that plaintiffs
 4 believe the defendant did, in order to create
 5 Aparthenonia, would that allow you to make an even
 6 more detailed comparison between the two?
 7 MR. OLSON: Objection to the form. Leading;
 8 compound.
 9 THE WITNESS: It may. But I do not believe it
 10 would be significant, because we would still have the
 11 problem of associated copies.
 12 MR. CHIN: Q. Do you have any opinion as to
 13 why Dr. Boulanger would conduct a comparison between
 14 Aparthenonia and Bust Dat Groove in a different
 15 amplitude?
 16 A. I believe that problem is consistent with the
 17 other problems he has in the report, of not comparing
 18 the data in a fair comparison.
 19 MR. OLSON: Objection. Move to strike as
 20 non-responsive.
 21 MR. CHIN: Q. You also indicated that Dr.
 22 Boulanger also used different scale sizes, when he was
 23 comparing different -- I believe audacity frequencies
 24 between Aparthenonia and Funky Drummer; is that
 25 correct?

<p style="text-align: right;">238</p> <p>1 MR. OLSON: Objection. Leading; compound. 2 THE WITNESS: The term is "auto correlation 3 analysis." 4 I don't know why he used different frequency 5 scales. I do know that it made a fair comparison very 6 difficult. 7 THE VIDEOGRAPHER: The time now is 6:12, and 8 we are going off videotape record. This also is 9 conclusion of Tape 3 in the deposition of Dr. Smith. 10 (Recess taken, 6:12-6:16 p.m.) 11 THE VIDEOGRAPHER: The time now is 6:16. 12 We're back on the videotape record. This also marks 13 the beginning of Tape 4 in the deposition of Dr. 14 Smith. 15 Please continue. 16 MR. CHIN: I want to strike the last question 17 that I had. 18 Q. Dr. Smith, if you would look at Figures 25 and 19 26 of Dr. Boulanger's report? 20 A. (Examining document) 21 Yes, I have it. 22 Q. And you indicated to Mr. Olson that in 23 conducting his analysis in Figures 25 and 26, Dr. 24 Boulanger did not use the same scale for each 25 composition; is that correct?</p>	<p style="text-align: right;">240</p> <p>1 his report that he took into consideration the 2 possible use of the de-noise program in comparing the 3 two compositions? 4 MR. OLSON: Objection. 5 THE WITNESS: No, he had no mention of 6 anything related to that. 7 MR. CHIN: Q. In your expert opinion, based 8 on the information that you have covered, what is your 9 conclusion as to whether or not Aparthenonia is 10 extremely similar to Bust Dat Groove? 11 MR. OLSON: Objection. Leading; compound. 12 THE WITNESS: In my opinion, the evidence is 13 extremely strong that Aparthenonia is extremely 14 similar to Funky Drummer. 15 MR. CHIN: No further questions. 16 FURTHER EXAMINATION BY MR. OLSON 17 MR. OLSON: Q. Dr. Smith, did Figures 25 and 18 26 from Dr. Boulanger's report have any effect on the 19 opinions you reached in your analysis of whether 20 Aparthenonia is a copy of Funky Drummer? 21 A. No, in my opinion these figures are fatally 22 flawed, and provide no conclusion whatsoever, either 23 way. 24 Q. So even if there were some mistake in the way 25 Dr. Boulanger prepared Figures 25 and 26 of his</p>
<p style="text-align: right;">239</p> <p>1 MR. OLSON: Objection. Leading; compound. 2 THE WITNESS: That's correct. 3 MR. CHIN: Q. If Dr. Boulanger wanted to do a 4 fair and impartial analysis between Aparthenonia and 5 Funky Drummer, is there any reason for him not to use 6 scales of the same size? 7 MR. OLSON: Objection. Compound; leading; 8 calls for speculation. 9 THE WITNESS: No, there isn't. 10 MR. CHIN: Q. And if you had to do the 11 comparison between these two compositions, would you 12 use scales of the same size, or different size? 13 A. I would certainly use scales of the same size. 14 However, since we are referring to these figures 15 specifically, I would never do the analysis in this 16 manner. 17 Q. In your opinion, by using scales of different 18 sizes in his Figures 25 and 26, is the conclusion that 19 Dr. Boulanger arrives at false? 20 MR. OLSON: Objection. Leading; form. 21 THE WITNESS: I don't believe the single issue 22 of using different scales is an overwhelming problem. 23 It is simply problematic of the larger problems within 24 the report. 25 MR. CHIN: Q. Did Dr. Boulanger indicate in</p>	<p style="text-align: right;">241</p> <p>1 report, for your purposes it has no effect on your 2 analysis. Correct? 3 A. Correct. It would not change my conclusion in 4 the slightest. 5 Q. Did you say that the far left pink spikes in 6 25 and 26 don't matter? Is that right? 7 A. That's correct. 8 Q. Why don't they matter? 9 A. It is an artifact of the mathematical 10 procedure of doing auto correlation. 11 Q. Are there any other parts of the frequency 12 analysis in Figures 25 and 26 that don't have meaning 13 for comparison? 14 A. In my opinion, the entire graphs have no 15 meaning, because they are taken on the entire one-bar 16 loops. With reference to the previous question, there 17 is no other part of the spectra that is meaningless 18 because of some mathematical problem. 19 Q. Every time you run figures -- frequency 20 analysis like we see in Figures 25 and 26 -- do you 21 get some far-left spike that you ignore? 22 A. That's correct. 23 Q. What is the math problem that causes that? 24 A. It falls out of the mathematical way of what 25 auto correlation means.</p>

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1 THE WITNESS: Yes, exactly.
 2 MR. OLSON: Q. So are you saying that
 3 compression changes the spectral characteristics of a
 4 sound?
 5 MR. CHIN: I'm going to object. We're going
 6 way beyond the area of either recross or redirect.
 7 MR. OLSON: I think I'm still in the area.
 8 MR. CHIN: You can answer.
 9 THE WITNESS: In most forms of compression, it
 10 simply adds what is the equivalent of white noise to
 11 the spectrum -- which does not change the position of
 12 the peaks and valleys.
 13 MR. OLSON: Q. Does it change any of the
 14 spectral characteristics of a sound?
 15 MR. CHIN: Objection.
 16 THE WITNESS: Yes, it would account for the
 17 varied differences that we have been pointing out
 18 between these two curves.
 19 MR. OLSON: Q. So they are not peaks and
 20 valleys. What would you call those differences? How
 21 would you describe them?
 22 A. I would describe those as additive white
 23 noise.
 24 Q. So you are saying the compression would not
 25 change the amplitude of the sounds.

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1 MR. CHIN: Objection.
 2 THE WITNESS: In general that's a fair
 3 statement.
 4 MR. OLSON: Q. And do you think the
 5 amplitudes in Figure 2 are the same? Correct?
 6 MR. CHIN: Objection.
 7 THE WITNESS: I don't know what you mean by
 8 "amplitudes."
 9 MR. OLSON: Q. Amplitudes of the peaks and
 10 valleys.
 11 A. Yes.
 12 Q. If someone added -- took the two sounds in
 13 Figure 2, and added bass to one of them, could that
 14 account for the differences we see in Figure 2?
 15 A. No.
 16 MR. OLSON: Dr. Smith, thank you very much. I
 17 have no further questions.
 18 MR. CHIN: Just one last question.
 19 FURTHER EXAMINATION BY MR. CHIN
 20 MR. CHIN: Q. Did Dr. Boulanger indicate in
 21 his report any assumptions as to whether two different
 22 snare drums can make the same or similar spectra?
 23 MR. OLSON: Objection to the form.
 24 THE WITNESS: No, I believe Dr. Boulanger
 25 extensively explained that he believed the Fourier

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1 analysis was something akin to DNA, in that it would
 2 provide a distinctive signature of almost any
 3 difference that could exist in wave forms, including
 4 different instruments.
 5 MR. CHIN: No further questions.
 6 MR. OLSON: Works for me.
 7 THE VIDEOGRAPHER: Here marks the end of
 8 Videotape 4 in the deposition of Dr. Steven Smith.
 9 The original videotapes will be retained by
 10 LegaLink-Video Solutions at 50 First Street, San
 11 Francisco, California.
 12 Going off the record, the time is 6:50.
 13 (Deposition concluded, 6:50 p.m.)
 14
 15 **DECLARATION OF WITNESS**
 16 I declare under penalty of perjury that
 17 the foregoing is true and correct. Subscribed at
 18 _____, California, this
 19 _____ day of _____, 2006.
 20
 21
 22 _____
 23 Signature of witness
 24
 25

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1 **CERTIFICATE OF REPORTER**
 2 I, George Schumer, a Certified Shorthand
 3 Reporter, hereby certify that the witness in the
 4 foregoing matter was by me duly sworn to tell the
 5 truth, the whole truth and nothing but the truth in
 6 the within-entitled cause;
 7 That said proceeding was taken down in
 8 shorthand by me, a disinterested person, at the
 9 time and place therein stated, and that the
 10 testimony of the said witness was thereafter
 11 reduced to typewriting, by computer, under my
 12 direction and supervision;
 13 That before completion of the deposition,
 14 review of the transcript was requested. If
 15 requested, any changes made by the deponent (and
 16 provided to the reporter) during the period allowed
 17 are appended hereto.
 18 I further certify that I am not of counsel
 19 or attorney for either or any of the parties to the
 20 said deposition, nor in any way vested in the
 21 outcome of this cause, and that I am not related to
 22 any of the parties thereto.
 23 DATED: _____, 2006
 24 _____
 25 George Schumer, CSR 3326

August 24, 2006
Steven W. Smith, Ph.D.
c/o Paul A. Chin, Attorney at Law
233 Broadway, 5th Floor
New York, NY 10279

Re: Vargas and Roberts vs. Pfizer

Dear Dr. Smith:

Please be advised that the original transcript of your deposition taken August 15, 2006 in the above-entitled matter is available for reading and signing. The original transcript will be held at the offices of Legalink-San Francisco, 575 Market Street, 11th Floor, San Francisco, California 94105 (415) 357-4300, for thirty (30) days in accordance with Federal Rules of Civil Procedure Section 30(e).

If you do not sign your deposition within 30 days, it may be used as fully as though signed.

If you are represented by counsel in this matter, you may wish to ask your attorney how to proceed. If you are not represented by counsel and wish to review your transcript, please contact our office for a mutually convenient appointment to review your deposition.

Thank you for your cooperation in this matter.

Sincerely yours,

George Schumer, CSR 3326

cc: Christopher W. Keegan, Attorney at Law
Paul A. Chin, Attorney at Law
Original transcript

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