Exhibit C



HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

Transcript of Colin Stokes

Date: March 6, 2026
Case: Concord Music Group -v- Anthropic

Planet Depos
Phone: 888.433.3767
Email: transcripts@planetdepos.com
www.planetdepos.com

1

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

CONCORD MUSIC GROUP, INC., ET AL, * Plaintiffs, * VS. * ANTHROPIC PBC, * Defendant. *

CIVIL ACTION
NO.: 5:24-cv-03811-EKL
SVK

****

HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

ORAL AND VIDEOTAPED DEPOSITION OF

COLIN STOKES

MARCH 6TH, 2026

****

ORAL AND VIDEOTAPED DEPOSITION OF COLIN STOKES, produced as a witness at the instance of the PLAINTIFFS, and duly sworn, was taken in the above-styled and numbered cause on the 6th of March, 2026, from 9:03 a.m. to 3:22 p.m., via Zoom, before Tammy Staggs, CSR in and for the State of Texas, reported by machine shorthand, at the Springhill Suites by Marriott Denton, 1434 Centre Place Dr, Denton, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the

2

record or attached hereto. That the deposition shall be read and signed under penalties of perjury. That the deposition shall be read and signed before any notary public.

3

A P P E A R A N C E S

FOR THE PLAINTIFF:
Mr. Jonathan King
COWAN LIEBOWITZ & LATMAN
114 West 47th Street
New York, New York 10036
212.790.9200
jzk@cll.com

FOR THE DEFENDANT:
Mr. Jared Grubow
Ms. Becky Maz (Via Zoom)
WILMER CUTLER PICKERING HALE AND DORR, LLP
250 Greenwich Street
45th floor
New York, New York 10007
212.230.8800
jarod.grubow@wilmerhale.com
becky.maz@wilmerhale.com

ALSO PRESENT:
Martin Salazar - Videographer
Karl Johnston (Via Zoom) - In house counsel for Anthropic

4

INDEX

	PAGE
Appearances	3
Exhibit List	5
Proceedings	6
COLIN STOKES:	
EXAMINATION BY MR. KING	6
Signature and Changes	235
Reporter's Certificate	238

Pages 13-36

13

technologist. So let's talk about those three prongs of your professional career.

So you're a performing cellist, correct?

A. I am.

Q. And I gather your -- your -- your genre of choice is both classical music and computer music?

A. If you look at my discography, my genres of choice are quite wide. I've released several albums with wonderful jazz artists: Petras Vysniauskas, Banda Magda, to name a few.

I toured for many years with Symphoniacs. I'm still a member of that group. And this is somewhere at the intersection between classical music and pop or dance music. I engage actively with classical music in -- in a broad definition of that from the most contemporary to traditional classical music and many other genres.

Q. If you don't mind my asking, roughly what proportion of your income comes from being a performing cellist -- performing and recording cellist?

MR. GRUBOW: Objection to the form.

A. This depends on the year, of course. A -- my career has many aspects to it. So it just depends on the year.

Q. (BY MR. KING) More than half on -- on

14

average?

A. I couldn't give you a specific without looking over the past 20 years of bank statements, but I would just say it varies widely year by year.

Q. You're also a composer, correct?

A. I am a composer.

Q. Do you have a music publisher?

A. I release my music as a publisher myself.

Q. You're self-published?

A. I'm self-published, and this is how I characterize my publications through BMI, my PRO.

Q. Right. I was just about to ask you. You're -- you're affiliated with BMI, not ASCAP or SESAC, correct?

A. Correct.

Q. Do you know how many songs/compositions you have registered with BMI?

A. I don't know a specific number.

Q. Okay. And I'm sure if you've been on the BMI site, you've seen that you can look up registered compositions by composer. Have you used that database before?

A. I haven't had a need to, but I imagine you have.

Q. How did you guess?

15

A. So...

Q. So let's mark as Stokes Exhibit Number 1 a printout from the Songview database available on BMI.

(Exhibit 1 marked.)

MR. KING: Can you mark that as Stokes Exhibit 1 and show it to the witness?

Q. (BY MR. KING) So, Mr. Stokes, I'll represent to you that I plugged your name in. I tried various variations, but I think I got it. And it pulled up 14 compositions registered with BMI.

Can you just look through the exhibit and tell me if those 14 compositions are all yours -- yours?

A. These look mostly correct. I'm not sure what -- for example, on page 5 the top section doesn't seem to have a title. The same thing for the --

Q. If you go -- if you go to the prior page, on page --

A. I see. Okay.

Q. And "MACHT 1," is that your composition?

A. And "Interspherism." Yes, these are all mine.

Q. Okay. So to the best of your knowledge, would these 14 compositions represent the universe of musical compositions you have registered with BMI?

A. I would say these represent, to the best of my recollection, the works I've registered with BMI. But

16

as with -- as is a standard practice among composers, we don't include all of our compositions in our publicly registered works. We put forward the works that represent our creative vision at a given time.

Q. Right. And -- and part -- well, you also registered them with BMI so BMI can collect performance income and distribute it to you, correct?

A. Of course.

Q. Do you register your compositions with the U.S. Copyright Office?

A. I don't have any recollection of doing that specifically.

Q. Okay. Just looking at the first composition on Stokes Exhibit Number 1, it says Beethoven 5 Symphoniacs arrangement. So is this an arrangement of an otherwise public domain work by Beethoven?

A. Yes. This is an arrangement that was made for my ensemble Symphoniacs.

Q. Are any of these -- the compositions -- among these 14 compositions also arrangements of works that are in the public domain?

MR. GRUBOW: Objection to the form.

A. No.

Q. (BY MR. KING) Do you receive performance income for public performances of these 14 compositions?

17

A. Presumably, yes. I receive a check from BMI each year for some amount. I don't know exactly what. I have an envelope from them that I haven't opened. But I have no idea of the breakdown of specific works, how -- how that works.

Q. Okay. Well, they can only pay you on compositions that are registered, so presumably any income you receive from BMI would be from one or more of these 14 works, right?

MR. GRUBOW: Objection to the form.

A. I'm happy to take your word for it, but I -- I have no knowledge of how it works.

Q. (BY MR. KING) And very, very small amount of income, right?

MR. GRUBOW: Objection, form.

A. I -- I don't know what you define as small, but it is some amount of income.

Q. (BY MR. KING) Right. Is it in the hundreds of dollars?

MR. GRUBOW: Objection, form.

A. I haven't opened the envelope from BMI. I can't give you a figure.

Q. (BY MR. KING) Well, presumably if you thought it was a significant amount of money, you would open the envelope, right?

18

MR. GRUBOW: Objection, form.

A. I'm quite busy writing my dissertation -- I was -- and I just haven't gotten to opening it yet.

Q. (BY MR. KING) So is your testimony that if you receive what you expect to be a large check, you just let it sit there?

MR. GRUBOW: Objection to the form, argumentative.

A. I have many sources of income. I'm faculty at two local colleges. I'm a salaried graduate student. I perform as a cellist. So I have many forms of income, and one particular form is just one particular form.

Q. (BY MR. KING) Other than performance income, do you receive any other income for your musical compositions?

A. Well, my salary -- role as a PhD student, as both the teaching assistant for the Institute for Advanced Research in Technology and the Arts, for the Center for Experimental Music and Intermedia, and as teaching fellow for the sophomore -- for the composition department, all of these income sources are related to my work as a composer.

Q. No, that I -- that I understand. I think you've made that clear.

But we're in a case with music publishers.

19

Music publishers generate income by exploitations of -- exploitations in the non-pejorative sense by -- by licensing musical compositions to be streamed, to be synchronized, to be used in various commercial settings. Other than the unopened check from BMI, are you aware of any specific income that you receive in connection with these 14 specific compositions --

MR. GRUBOW: Objection to the form.

Q. (BY MR. KING) -- noted in Stokes Exhibit Number 1?

MR. GRUBOW: Same objection.

A. Well, I'm also hired to perform my own works. So, I mean, we can look through my CV if you would like; but just as I'm hired as a cellist, I'm also hired to perform my own compositions. And I would receive income in these cases.

Q. (BY MR. KING) Right. That's -- that's -- that's the money you're being paid for the performance. But those performances, presumably in public places, generate one kind of income specific to the musical composition. And that's what we call performance income collected by BMI, SESAC, or ASCAP in the United States.

So other than, sort of, the fact that you're paid to play performances at which your compositions are played, are you aware of any income,

20

other than your BMI check, that you receive for exploitations of your musical compositions? For instance, streaming income?

MR. GRUBOW: Object to the form.

A. I -- I think that it's a bit of a mischaracterization of -- of what these performances are. If I'm hired specifically to perform my own works, I would argue that that performance wouldn't happen if my works didn't exist. So I think that's a bit of a mischaracterization.

Beyond that, yes, I have work on streaming platforms. I have work on YouTube. I, of course, have had work played on the radio.

Q. (BY MR. KING) Can you give me a sense of how much income you receive from streaming platforms annually?

MR. GRUBOW: Objection, form.

A. I have no idea.

Q. (BY MR. KING) It's not a significant part of your income though, right?

MR. GRUBOW: Objection, form.

A. I'm not sure what you consider to be significant, but I have no idea what the amount is from streaming.

Q. (BY MR. KING) You don't know whether it's

21

hundreds of dollars? Thousands of dollars? Tens of thousands of dollars? No clue?
MR. GRUBOW: Objection to form.
A. No clue.
Q. (BY MR. KING) How do you receive money from streaming?
A. I also don't know. I imagine this is through the PRO.
Q. Right. So it would be -- it would be part of your BMI check, right?
A. I'm speculating here, but I would imagine so.
Q. Well, presumably if you received it from some other source, you would know, right?
MR. GRUBOW: Objection, form.
A. Yes, one could guess that that could be true.
Q. (BY MR. KING) Of any of these 14 compositions on Stokes Exhibit 1, do any of them include lyrics?
A. They do.
Q. Which ones?
A. "Coconut" has --
Q. Can you tell me what page that's on?
A. That's on page 2.
Q. Before we leave that one, did you author the lyrics for "Coconut"?
A. I did.

22

Q. Okay. And are they conventional narrative lyrics? I mean, in your report you talk about, for instance, generating -- I think you called it sort of nonsense phrases and -- meaning things that don't have conventional narrative meanings. Is -- is that the kind of lyric you're talking about "Coconut," or does it have understandable narrative English lyrics?
MR. GRUBOW: Object to the form.
A. The lyrics are English, yes.
Q. (BY MR. KING) And did you write them?
A. I did.
Q. Okay. Any others on this Stokes Exhibit Number 1?
A. Yes. In -- let's see, some of these are a bit older. In "Understanding," I discussed this in -- in my report. "Understanding" is -- is the example where I generated not -- not nonsense, but a fictional language with sort of traditional semantic structures and mixed this in with other -- other lyrics, other real words, like English words, and then recorded both human speaking these and AI-generated voices speaking these. And then I used an algorithmic process to, sort of, play back these clips.
Q. Where is this composition on Exhibit Number 1?
A. This is page 5 at the bottom. Page 5 into

23

page 6.
Q. Got it.
So that's the one you talked about?
A. Uh-huh.
Q. By the way, nonsense I believe was your word. I wasn't using it pejoratively. I think you used it just --
A. Oh, I didn't -- I'm sorry. I didn't take it as pejorative.
Q. So those are the -- two among the 14 have a lyrical component, right, on Stokes Exhibit Number 1?
A. The two I'm picking up right now. It's possible there's a lyrical component in another one.
Q. You also describe yourself in your report as a music technologist. So tell me what that -- that can be interpreted a lot of different ways. So what -- what do you mean by that?
A. Sure. I have broad expertise in music technology, in addition to computa- -- computational processes for composition. As a teaching assistant in the Center for Experimental Music and Intermedia, I'm among those responsible for our highly technical spaces. So we have a 42-speaker sound dome. We have 225 or 270 degree projection. I'm not sure of the exact number. And all of the audio/video is on -- is

24

all network. So all of this -- all of this technical work of maintenance and -- and show production is run by me and the other teaching assistants.
Beyond that, what I would, sort of, loop into my role as a music technologist is my work in Generative AI in music. So I was part of the initiative to get our compute cluster set up and running at -- in the composition division.
And as part of that work, I worked with one of my advisors, Dr. Marco Buongiorno Nardelli, on developing our own -- our own machine learning architecture called Vega. It's a variation audio encoder with a general adversarial network as a second layer. And we use this for symbolic music generation.
Q. Can I ask you about Vega?
A. Sure.
Q. Vega -- my understanding, Vega is trained on Bach and Scarlatti, correct?
A. Vega can be trained on many things.
Q. I got that from your report. Is it -- is that not the full description of what Vega has been trained on to date?
A. Vega can be trained on many things. Vega --
Q. Can be, but what has it been trained --
MR. GRUBOW: Counsel, let him finish his

25

answer, please.
A. Vega can be trained on many things. Among those are -- are training sets such as the Bach chorales available through Music21, I believe. They can be trained on -- on Scarlatti. It can be trained on composer's own work, if they would like.
Q. (BY MR. KING) And when you say "if they would like," if they grant consent, right?
MR. GRUBOW: Object to the form.
And, Counsel, you've got to let him finish.
A. So what I -- what I was getting at here was they can be trained on a composer's own works, meaning the composer using Vega as a tool. So, for example, I can use symbolic representations of my music to train this model to then generate a latent space, which I can use as a variation generator or as a way to explore new possibilities within my own idiom. So, yes, Vega can be trained on many things.
Q. (BY MR. KING) Have you trained Vega on current copyrighted music for which you didn't obtain consent?
MR. GRUBOW: Object to the form.
A. So far we've trained on small, self-created datasets, as well as Bach and Scarlatti as you noted.

26

And we train on these small datasets for specific reasons. So Vega is a small research model, and we're interested in -- in traceability. We want to see exactly the connection between the input and the output; and this, so far, has required that we use small, homogenous datasets, which is why, you know, we train, say, just on -- just on Bach and then we play with the latent space when we're inferencing.
Q. (BY MR. KING) And when you say "self-created," you're referring to, for example, a composer like you training on your own compositions?
A. Yes.
Q. Okay. So I think the answer to my question is: No, you have not, to date, trained Vega on third-party copyrighted works without the consent of a copyright owner. That has not happened yet?
MR. GRUBOW: Object to the form, asked and answered.
A. In my use so far, I've trained on the sources that I mentioned to you: Bach, Scarlatti, as well as self-created datasets.
Q. (BY MR. KING) Right. But I'm asking you a yes-or-no question. It's -- it's a yes or no.
You haven't trained Vega so far in your work on third-party copyrighted works without the

27

consent of a copyright owner. That -- that is a correct statement, right?
MR. GRUBOW: Object, form; asked and answered.
A. As to the -- to the date of this report, I have trained on Bach, Scarlatti, and self-created datasets.
Q. (BY MR. KING) So you're unwilling to answer a yes-or-no question?
MR. GRUBOW: Counsel, he's answering your question.
A. I -- I believe I answered your question. I'm happy to -- to repeat my answer if you would like.
Q. (BY MR. KING) Right. Well, why don't you answer it just yes or no. The answer is -- it is correct -- it is a factually correct statement that as of today Vega has not been trained on any third-party copyrighted works for which you have not sought the consent of a copyright owner. That's a correct statement, right?
MR. GRUBOW: Objection, form; asked and answered.
A. To date I've trained Vega on Bach, Scarlatti, and material that I generated myself.
Q. (BY MR. KING) What about Lyra? Can you tell

28

me what Lyra is? It's also another AI model you're working on --
A. Sure.
Q. -- at University of North Texas, right?
A. Correct. Lyra is in earlier stages. So Vega we've -- it's a chapter in my dissertation, and we're -- we're going to release an article on this in the next few weeks. So this will be publicly available source code in material soon. Vega is earlier in the process. It's still --
Q. Vega or Lyra?
A. Sorry. Lyra is earl- -- thank you. Lyra is earlier in the process, but it will be -- while -- while Vega is for symbolic music generation training on MIDI and MusicXML, Lyra will be for synthesis -- audio synthesis. And, likewise, the plans for this are that it will be a tool -- a small research model tool for purpose-created data. For example, several hours of me playing cello. I've already created this dataset.
We also have plans to work with students at University of North Texas to create, for example, a dataset of an oboe key clicks. All the, sort of, secondary sounds that an oboe can make to create, sort of, interesting, purpose-filled research models for experimentation.

29

Q. So to date, the -- it sounds like the training datasets for Lyra have been entirely self-created; is that correct?
A. I'm not the only one working on this model, but in my use, the datasets have been self-created.
Q. You don't have training in psychology, correct?
A. I'm not a psychologist, no.
Q. Okay. And your -- you don't have academic training in consumer behavior, right?
A. I'm not a behavioralist either, no.
Q. Okay. You don't have training in linguistics, correct?
A. I'm not a linguist. Though as part of the methodology of music theory, of course, we analyze text; and I've been doing this since my high school music theory courses.
Q. I know, but you don't hold yourself out as an expert in linguistics, right?
A. I would say that I have specific expertise in analyzing how lyrics and music interact.
Q. I was actually just asking about the general field of linguistics. You don't hold yourself out as an ex- -- you don't have an academic degree in linguistics, do you?

30

A. As I said, I'm not a linguist. But I have specific domain expertise in how words and music work together.
Q. I mean, you're not a lexicographer, for example, right?
A. I'm also not a lexicographer, but I have specific expertise in how words and music work together.
Q. Like for -- you haven't published papers on semantics, correct?
A. I have a paper that I'm preparing for publication. It was part of a doctoral seminar. I think I reference it in my report, analyzing specifically how text is used in popular music. In this case, I was analyzing stereo field and source separation and how this affects the analysis of -- of text and music.
Q. You don't have any academic expertise in literature or poetry, correct?
MR. GRUBOW: Object to the form.
A. I would argue that as a part of my -- as part of my three degrees, I have spent quite a lot of time analyzing texts and literature as -- as is appropriate as it relates to music.
Q. (BY MR. KING) But you do not have any academic degree, for example, in poetry, right? That is

31

an academic discipline. And to the best of my understanding, you do not have any degree in poetry, right?
MR. GRUBOW: Objection to the form.
A. I'm not a poet as a stand-alone artistic practice, but I use text in my work. I write lyrics. I analyze lyrics. And I have a substantial background in this analytical methodology.
Q. (BY MR. KING) You're not a historian, right?
A. I would have a similar answer to you. I've been studying music history for decades now, and I have a very deep, deep expertise in music historical issues.
Q. You're not an expert in the business of music, but I'm -- I'm distinguishing that, let's say, from music theory, your academic theories. But sometimes, for instance, in these cases there will be a person who will testify to the customs and practices and business transactions, music publishing, royalty streams. That is not your area of expertise, right?
MR. GRUBOW: Object to the form.
A. I wouldn't put myself as an expert in any legal matters. I have no legal training, but I have more than 20 years of experience in this field.
As you see from my discography, I've released albums with many labels, including the major

32

labels: Universal, Warner, EMI, et cetera, as well as many of the smaller classical music labels. So I have -- I have quite a lot of experience in the business of being a musician.
Q. (BY MR. KING) But, for instance, are you an expert in -- in the royalty streams? For instance, how streaming income is calculated and dispersed among various rightholders?
MR. GRUBOW: Object to the form.
A. I'm not a lawyer. So I haven't developed expertise in specific legal aspects of -- of streaming royalties.
Q. (BY MR. KING) And, obviously, you've done some academic writing and published papers, correct?
A. I have.
Q. And you have advocated in your writings for the position that is essential that AI systems not replace human creativity, correct?
MR. GRUBOW: Object to the form.
A. I believe that AI systems can be used to -- to augment, to expand, and enhance human creativity. And this is -- this is how I use it, and I've shown in many examples through this report how it's used this way.
Q. (BY MR. KING) But you -- but -- but -- but again you've got to listen to my question. You've

33

advocated that it's essential that AI systems not be used to replace human creativity, right?
MR. GRUBOW: Objection, form; asked and answered.
A. If you're quoting me directly, I'd be happy to look at a quote. But as I -- as I show clearly in this report, Generative AI in general and LLMs can be and are used to enhance, expand, augment human creativity.
Q. (BY MR. KING) You have also in -- in your writings been critical of ultralarge centralized commercial AI models that have had the effect of diverting resources to what you've described as a small, elite group of engineers and venture capitalists, right?
A. I'm not sure that characterizes my position clearly. But, again, if you have a direct quote you would like to look at, I would be happy to analyze it with you.
Q. Well, are you disavowing that you have said that it's an unfortunate trend that these ultralarge AI models are diverting resources to a small and elite group of engineers and venture capitalists?
MR. GRUBOW: Object to the form, mischaracterizes testimony.
A. I believe that mischaracterizes my position. But if -- if you're speaking to a direct quote, I'd be

34

happy to look at it with you.
Q. (BY MR. KING) Sure. You've also criticized indiscriminate scrubbing of data from the Internet to develop AI models, right?
MR. GRUBOW: Objection to the form.
A. Again, I'd be happy to look at a direct quote from you, but I -- I believe that mischaracterizes my position.
Q. (BY MR. KING) Okay. Well, you've all called that process indiscriminate scrubbing for training data for AI models and exploitation of human authorship, right?
MR. GRUBOW: Object to the form.
A. Again, if we're talking about a hypothetical situation, I could make a guess. But if -- if this is a direct quote, I would be happy to look at the material with you.
Q. (BY MR. KING) You've also said that it is critical that artificial intelligence not infringe on original human authorship, right?
MR. GRUBOW: Object to the form.
A. I believe it's -- it's critical that Generative AI be seen as what it is, which is an augmentation, an expansion of human creativity, which is exactly how I use it. It's exactly what my research is

35

focused on, and it's exactly what the dozens of examples I show in my report.
Q. (BY MR. KING) But are you disavowing that you have taken a public position that AI cannot and should not infringe on human authorship and that, in fact, it should compensate human authorship when it uses human authorship to train AI models?
MR. GRUBOW: Object to the form.
A. I'm not disavowing any former public statement of mine.
Q. (BY MR. KING) Okay. I suspect you know what public statements I'm talking about, don't you?
MR. GRUBOW: Object to the form.
A. (No response.)
Q. (BY MR. KING) Do you believe that AI models should disclose aspects of human authorship that they use to train their models?
MR. GRUBOW: Object to the form.
A. I don't think I have any specific legal expertise on what should or should not be disclosed.
Q. (BY MR. KING) It's a matter of ethics as a -- what you, Colin Stokes, think.
MR. GRUBOW: Object to the form.
A. I'm also not an ethicist. I'm a composer, songwriter, cellist, and researcher in Generative AI.

36

In music composition I have no specific expertise in -- in ethics or law.
Q. (BY MR. KING) But you've made multiple statements in your writings about ethically-sourced training data. You do have some component of ethics in your assessment of AI. So when you say an AI model, let's say, should use ethically-sourced training data, what do you mean by "ethically sourced"?
A. Sure.
MR. GRUBOW: Objection to the form.
THE WITNESS: Sorry.
A. I'm happy to get into that. So when I'm discussing in this article you're referencing ethically-sourced data, I'm interested in this self-created -- the self-created datasets where we can really trace input into the black box of the model into our output. So I'm interested in -- in having my hands on that data from the beginning to the end so that I can track the progress of my research models.
Q. (BY MR. KING) But -- but isn't it true, sort of, in the vast amount of journalism about AI, ethically-sourced training data is sort of a term of art for training data for which the AI developer has obtained consent, right?
MR. GRUBOW: Object to the form.

Pages 45-52

45

power, if that's appropriate, to develop our own research models. We're not able to -- to create models that use -- that require so much compute and budget. It's just not possible in the academic environment.

Q. (BY MR. KING) I understand. You're saying they can coexist?

A. I'm saying they can coexist.

Q. So -- but to be clear, Anthropic and Claude would be the paradigm of an ultralarge model that has channelled financial, computational, and data resources to an increasingly small, elite group of engineers and venture capitalists, right?

MR. GRUBOW: Objection to the form.

A. I -- I would agree that -- that Claude is a large model. In fact, it's in the name. The large language model requires a lot of data.

Q. (BY MR. KING) And is supported by an extraordinary amount of venture capital, right?

MR. GRUBOW: Object to the form.

A. I don't have any inside information on financial matters related to Anthropic's budget.

Q. (BY MR. KING) You've seen nothing about what Anthropic has reined in $380 billion valuation it just received at the end of last year? That's news to you?

MR. GRUBOW: Object to the form.

46

A. I don't have any particular memory of specific budgetary numbers, no.

Q. (BY MR. KING) Okay. Now, let's go to another passage. I'll direct you to the second column of page 22 of Stokes Exhibit Number 2. You say, (as read): We recognize the exploitation of human creativity through indiscriminate scrubbing of online data for training large applications in the commercial ecosystem.

Again, Claude would be a large application in the commercial ecosystem, right?

MR. GRUBOW: Object to the form.

A. In this case, we're recognizing this hypothetical that an exploitation of human creativity could happen. We're not assigning any specific -- any specific attributes or any specific target of that.

Q. (BY MR. KING) Well, you know that Claude has indiscriminately scrubbed the online data for training, right?

MR. GRUBOW: Object to the form.

A. I'm not an expert, nor have been I asked to opine on how Claude obtained their data. I'm specifically asked to -- in this case, I've been asked to analyze how lyrics exist within a musical composition.

Q. (BY MR. KING) You have plenty to say about

47

the heterogeneous data that a model like Claude needs and the quantity of it. Do you believe it obtained it by any method other than indiscriminate scrubbing of online data?

MR. GRUBOW: Object to the form.

A. I've not been asked to analyze how Claude obtained their data. I do speak about the importance of a large heterogeneous dataset for an LLMs' ability to generalize and create useful outputs for its users.

Q. (BY MR. KING) This next sentence says -- and this is on column 2, page 22, Stokes Exhibit Number 2 -- (as read): We believe that created AI must not infringe upon original human work, nor through an action allow human originality be compromised.

I assume you believe that as a general principle?

MR. GRUBOW: Object to the form.

A. Yes, I stand by my published work.

Q. (BY MR. KING) And do you believe that when an AI model trains on copyrighted works, whether literature, images, music, lyrics, compositional elements in music, when they do that without the permission or knowledge of the copyright owners, do you consider that to infringe on their original human work?

MR. GRUBOW: Object to the form, calls for

48

a legal conclusion.

A. I feel like you're asking me to make a legal statement here, which is not only outside my assignment here, but it's, of course, outside my expertise. What I'm saying here is that we want to create models that expand and extend human creativity and that's exactly what we're doing at -- at CEMI with our Vega model.

Q. (BY MR. KING) Is it your testimony under oath that when you wrote that sentence that AI should not infringe upon original human work, you did not have in mind the indiscriminate scrubbing of copyrighted works from the Internet for training datasets?

MR. GRUBOW: Object to the form, argumentative.

A. In this article, I'm arguing for a small rhizomatic research alternative, as I think I -- I lay out clearly in my discussion of Vega here and in this SEAMUS article, describing small models that can be trained at universities that can be used to expand human creativity rather than replacing human creativity.

Q. (BY MR. KING) Your next sentence says, (as read): We believe that the unauthorized exploitation of human works should be recognized and compensated.

So you took that position. Do you still believe that to be the case?

49

MR. GRUBOW: Object to the form.
A. I -- I think it's -- I think it's important to see that I'm proposing two -- I'm proposing an alternative to this large language model for research purposes. I'm not taking any legal opinions here. I'm -- I'm recognizing some hypotheticals in this paragraph.
And if you look in the next paragraph, I say, (as read):
While there is much to critique regarding training methods, et cetera, there are also many ways in which these tools empower artists and open new vistas of creative potential.
And I -- I -- I stand that by strongly.
That genAI, like these large frontier models, have so much to offer for composers, songwriters, and creatives like myself.
Q. (BY MR. KING) Yeah, I -- I think that would be clear to anyone who has read your two reports.
Let's go back to that last sentence of that paragraph. We bel- -- you took a position here. You said, (as read): We believe that the unauthorized exploitation of human work should be recognized and compensated.
What did you mean by the "unauthorized exploitation of human work" in the sentence in the same paragraph where you talk about indiscriminate scrubbing

50

of online data?
A. Sure.
Q. Can -- can the indiscriminate scrubbing of online data constitute the unauthorized exploitation of human work?
MR. GRUBOW: Objection to the form, asked and answered.
A. I'm not coming to a legal conclusion here. I'm -- I'm stating that we recognize these hypotheticals. And then I go on to say that there are also ways in which these tools empower artists. So I'm not coming to a legal conclusion over types of data collection or any legal principles that -- that might be --
Q. (BY MR. KING) Nor am I asking you to offer --
MR. GRUBOW: Counsel, please let him finish.
Q. (BY MR. KING) Nor am I asking you to offer a legal conclusion. I'm asking you to explain to me what you meant when you expressed the concern that the unauthorized exploitation of human work should be recognized and compensated. We're talking about the use of AI in connection with music.
What is it about the use of AI in connection with music that concerns you enough to state

51

as a principle of your organization here that the unauthorized exploitation of human work should be recognized and compensated? What unauthorized exploitation were you talking about then?
MR. GRUBOW: Object to the form, asked and answered. And I would ask, Counsel, again to please let me him finish and not talk over him.
A. I'm discussing hypothetical principles here that we want AI to expand and enhance artistic creativity, not replace it.
Q. (BY MR. KING) Are you denying that you wrote here that you don't want AI to engage in the unauthorized exploitation of music work -- I'm sorry -- the unauthorized exploitation of human work and that it -- that human work should be both recognized and compensated? That is the position you took, correct?
MR. GRUBOW: Objection.
Q. (BY MR. KING) In the context of this article subject to all of your qualifications, right, that's the position you took.
So I'm asking you: What unauthorized exploitation of human work were you talking about? This wasn't stated as a hypothetical. This was stated as a principle -- principle, like a constitutional principle that you want your organization to abide by.

52

One way to exploit human work would be to use it, to indiscriminately take it to train your AI model, correct? I'm talking not as a legal model, but in your view as expressed in your paper.
MR. GRUBOW: Objection to the form. Mischaracterizes document, mischaracterizes the testimony, asked and answered.
A. I -- I do believe you're mischaracterizing what I'm stating here and in which context I'm stating it. Additionally, I believe you're asking me to offer a legal opinion on what type of data collection is -- constitutes any hyp- -- hypothetical exploitation. What I'm proposing here is another approach for academic research. As I say in the first paragraph, (as read):
A smaller rhizomatic approach on smaller datasets in which we can trace our input to our output for creative purposes.
I also say in this article, as you can see, that there are many ways large models can be used to empower artists and open new vistas of creative potential.
Q. (BY MR. KING) Got you.
I'm not asking for your legal opinion. I'm just asking what you meant in your article that you wrote, your words -- your authored words where you said

Pages 57-60

57

ourselves so that we can create interesting latent spaces to explore. That's specifically the point of Vega. In fact, this variational audio encoder, the whole idea is we create a latent space that we can -- we can walk through. And we can do many interesting things when we're there. We can use algorithmic processes to -- to create musical variation.

Q. (BY MR. KING) By the way, putting aside the distinction between other types of peer-reviewed works and publications, is this SEAMUS article the only academic article that you have published in an academic journal?

A. This is so far my only article, though I have several articles being prepared for publication, including on Vega and on the computational analysis of lyrics in -- in popular music, including to works-in-suit.

MR. KING: Okay. We can take a break now.

THE VIDEOGRAPHER: We're going off the record at 10:08 a.m.

(Recess held, 10:08 a.m. to 10:14 a.m.)

THE VIDEOGRAPHER: We're going back on the record at 10:14 a.m.

Q. (BY MR. KING) Have you ever served as an expert witness before?

58

A. I have not served as an expert witness before.

Q. Who first contacted you about this case?

A. It was several months ago, but I believe it was Jarod from Wilmer Hale.

Q. Okay. You've also worked with the Analysis Group in connection with preparing your report?

A. I have worked with the Analysis Group. I believe I state this in -- in Section 1 of my report.

Q. Had you worked with them before, or were you introduced to them by Mr. Grubow or his firm?

A. I had a family friend who worked at Analysis Group, and that's how I made that connection.

Q. Okay. What was their role in assisting with your analysis?

A. Sure. So Analysis Group helped me in -- in formatting and, sort of, wrangling Microsoft Word to do what we needed it to do. They helped me with formatting, compiling footnotes, and other types of -- what's the word -- other types of, sort of, formatting-type work like that.

Q. They didn't do any of the substantive work?

A. No. All the opinions in this -- in this report are mine.

Q. And did they help you find any citations that you put in your report?

59

A. Analysis Group worked at my direction to complete some research that I requested to be done, but all the -- all the ideas and words in this report are mine.

Q. No, I understand that you're the author of the report. I'm saying the footnotes cite to various third-party materials. Did Analysis Group find any of those third-party materials for you?

A. All of the -- all of the ideas that I'm -- I'm referencing in these footnotes are mine. I've used these footnotes for my research. I've used these -- these documents to come to my opinions in this report.

Q. But did Analysis Group locate any of the third-party materials that you cite in the footnotes in your report?

A. Any materials I used in this case/in this report were produced at my direction -- or produced at my direction.

Q. No, I understand it was at your direction. I assume everything -- you directed the entire conduct and authorship of the report, one would hope. I'm asking a simple question. You may have said to Analysis Group: I would like some research relating to the following principles. In that context, did they find any articles or citations that you have in your footnote? I

60

understand it would have been at your direction, but did they find those materials for you?

A. I can't speak to any specific footnotes, but all of these footnotes were researched by me and -- and used in the preparation of this opinion.

Q. So you found all of them? You personally, Mr. Stokes?

MR. GRUBOW: Object to the form.

MR. KING: I can't imagine what's objectionable about that question, but go ahead.

A. I -- I used these citations to prepare my report and to come to my conclusions.

Q. (BY MR. KING) So it sounds like your testimony is that Analysis Group didn't find a single one of the citations. Is that your testimony?

MR. GRUBOW: Objection to the form.

A. I believe you're misstating my previous answer. My answer was, in fact, that I used all the materials that I -- I cite in this report to come to these conclusions.

Q. (BY MR. KING) That, I understand. I'm just -- I'm asking you the simplest of questions.

Any of the materials cited in your footnotes, was Analysis Group the party that found them? Even if it was at your direction, but did they go locate

Pages 69-84

69

for major chords. They -- they can contain -- they have, sort of, inherent valence based on our Western musical system. Right? So I think it's -- it's important to discuss how these musical aspects provide this -- this meaning.

Take, for example, my -- my example of "Respect." The original song was sung by Otis Redding, and many analyses that I -- or the analyses I -- I cite in my report show that the original song was seen as being somewhat misogynistic. And with -- with just very minor changes to the lyrics, it was sung by Aretha Franklin and became a feminist anthem. That meaning change is not coming from a change in the lyrics.

Q. That -- that --

A. It's coming from other musical aspects that are completely chaining -- changing the meaning of those words.

Q. Right. And -- and the lyrics to "Respect" are tremendously commercially valuable, aren't they?

MR. GRUBOW: Object to the form.

A. I -- I'm not a lawyer. I have no -- no concept of or no expertise in deciding their commercial value. But I'm -- I'm telling you -- I'm telling you that -- that -- or what I'm attesting in this report and what I'm trying to explain right now is that the meaning

70

of these lyrics in that case are entirely dependent or greatly dependent on -- on non-lyrical elements.

So I discuss many examples of this -- I'm sure we'll go through others -- that lyrics derive much of their meaning from their musical setting.

Q. (BY MR. KING) Let's look --

MR. GRUBOW: I'll instruct the witness to slow down for the court reporter a little bit.

Q. (BY MR. KING) Look at paragraph 19 of your report, Stokes Exhibit Number 3. You say that, (as read): My conclusion that lyrics derive much of their value from the other elements of the composition is grounded in the principles and methods of music theory.

What is your measure of value?

A. I'm using value here to discuss their emotional and narrative communication. I'm -- I'm using this to discuss their role in an overall musical composition.

Q. Okay. And how do you measure their narrative or expressive value? What metric are you using?

A. Sure. I'm using the common methodologies of -- of music theory. Just how we analyze anything in music. So we -- we have traditions and expectations in -- in Western music; and how composers use these traditions or push against them, how they use harmony

71

how they use melody, all of these -- all of these established trends we can use as -- as a baseline. And we -- we analyze how composers operate within that structure. So I'm using the methodology of -- of -- of music theory and in some clas- -- some cases music history and musicology to analyze these works and come to these conclusions.

Q. So when you refer to the value of lyrics or the value of any particular musical element, you're not talking about commercial or economic value, right?

MR. GRUBOW: Object to the form.

A. Correct. I'm talking about their value as a -- as a component of that song in the final emotional and narrative impact of that song.

Q. (BY MR. KING) This is what I'm trying to specify. So -- so when you use value -- probably meaning, but let's stick with value -- you're talking about their value in their ability to, what, communicate a certain emotion?

A. Yes. I'm talking about -- I mean, as I -- as I state in my summary of conclusions, I'm talking about how lyrics exist within the framework of an entire musical composition.

Q. No, I understand -- I understand your position about the integrated sections of musical composition and

72

their respective influences on each other. Right? Lyrics can influence harmony and melody, right? And harmony and melody can influence lyrics, right?

MR. GRUBOW: Object to the form.

A. I belive there were two -- two points there. I'm arguing how lyrics are impacted by -- or I'm analyzing how lyrics are impacted by their -- their musical setting. I'm not making any economic judgment to the value of any specific component of a composition.

Q. (BY MR. KING) And you're not applying any quantitative measure, right? You're not -- these values that you're assigning to lyrics with or without music, you're not assigning in your report and you don't make any effort to assign any quantity of value to those measures, right?

MR. GRUBOW: Object to the form.

A. I'm applying the -- the methodologies used in music theoretic research and at sometimes musicological and music historical research.

Q. (BY MR. KING) But is -- but is your analysis in this expert opinion that you're offering in this case at all a quantitative measure of the value of lyrics?

A. Again, I'll -- I'll state I'm using the common methodologies of -- of music theory. I am analyzing -- I analyze throughout this report specific -- I analyze

73

works-in-suit to -- to examine how lyrics function in those cases.

Q. Right. But you don't -- in other words, you don't assign lyrics in a given composition a certain quantitative value, 12 points versus harmony gets 14 points and melody gets 27. That's not the way your analysis works, right?

A. I don't use a point system in the --

Q. Or any --

A. -- in this --

Q. -- quantitative system --

A. -- document.

Q. -- analysis in -- in your opinion in this case, right?

MR. GRUBOW: Object to --

Q. (BY MR. KING) You do no quantitative analysis, right?

MR. GRUBOW: Object to the form.

A. I do a thorough analysis of the works-in-suit using -- using well-established methodologies from music theory --

Q. (BY MR. KING) To be clear --

A. -- just from musicology.

Q. -- you do an analysis of a handful of works-in-suit. You don't purport to have done a

74

thorough analysis of many hundreds of works-in-suit, right?

MR. GRUBOW: Object to the form.

And, Counsel, you have to let him finish.

A. I don't give an analysis in this report of all 499 works. But I believe I -- I give a thorough analysis of my assignment, which was to analyze how lyrics function within a musical composition and to -- how gen -- genAI can benefit artists like composers and songwriters.

Q. (BY MR. KING) Do you know how many specific works-in-suit you analyzed in this report? And when I say analyze, I mean in terms of the relative value of the lyrics as against other musical elements.

MR. GRUBOW: Object to the form.

A. I -- I could take the time to count them, but I don't know the number offhand.

Q. (BY MR. KING) Roughly 10, 15? Something like that?

MR. GRUBOW: Object to the form.

A. Again, I -- I -- I would be guessing if I offered you a number.

Q. (BY MR. KING) I know you're not a lawyer. But do you have any knowledge of how courts allocate value to different aspects of musical compositions?

75

Because they do. Is that something you've ever looked into?

MR. GRUBOW: Objection to the form.

A. I have no specific knowledge of how the legal system assigns value to particular components of a song.

Q. (BY MR. KING) What about -- putting aside the law, right -- all the music contracts out there? Do you know, for instance, how royalties or copyright ownership are calculated between lyricists and songwriters who don't provide the lyrics?

MR. GRUBOW: Objection to the form, calls for speculation.

A. Could you rephrase that question for me? I'm not sure I understand.

Q. (BY MR. KING) Yeah, sure. Let's say that there is a song that is jointly composed. You have a lyricist, and you have a composer. You have George and Ira.

A. Uh-huh.

Q. Or Bernie and Elton, right? I should say Bernie Taupin and Elton John or Ira Gershwin, right? Do you know how the income generated by the jointly authored compositions is split customarily between a lyricist and an underlying composer?

MR. GRUBOW: Objection to the form.

76

A. I -- I'm not -- I have no expertise in any legal systems, especially not copyright law. I also don't have any specific knowledge of any agreements that -- that certain musical acts, composers, and lyricists may have come to.

Q. (BY MR. KING) Well, Elton John and Bernie Taupin have been very public about how they split income. Do you know how they split income?

MR. GRUBOW: Objection to the form.

A. I have no particular knowledge of their financial agreements.

Q. (BY MR. KING) Would you be surprised if it was 50/50?

MR. GRUBOW: Objection to the form.

A. I have -- really, I have no -- no -- nothing to base that opinion on.

Q. (BY MR. KING) Do you know what the writer's share of music royalties is in music publishing?

MR. GRUBOW: Objection to the form.

A. I don't have any particular knowledge of legal or financial agreements.

Q. (BY MR. KING) Well, okay. I'll represent to you that it's customary in the music industry when you have a lyricist and a composer for them to split the income generated by a composition equally, 50/50. That

77

is a standard practice, which every one of my clients can easily testify to. Does that surprise you?
MR. GRUBOW: Object to the form.
A. I have no emotional reaction to that. I have no baseline to compare what you're representing to me against.
Q. (BY MR. KING) Okay. Well, how the industry values lyrics versus I'll call it music, that's one measure of the value of music, right?
MR. GRUBOW: Objection to the form.
Q. (BY MR. KING) Of a musical composition, I should say.
A. I believe we're --
MR. GRUBOW: Same objections.
A. I believe we're talking about economic analyses of -- of where to place value in a musical composition. My expertise is in -- in composition and songwriting and performing Generative AI music. I have no -- anyway, what I'm analyzing here is -- is how lyrics function within a musical composition in providing emotional and narrative meaning.
Q. (BY MR. KING) Are you --
A. I'm not analyzing -- I'm not purporting to give an economic analysis of the value of -- of certain parts of a musical composition.

78

Q. Right. So you're not offering an opinion on the, sort of, economic marketability or the market for lyrics, right?
MR. GRUBOW: Objection to the form.
A. I'm not offering any economic opinions in this document.
Q. (BY MR. KING) Or any opinion on the commercial market for lyrics, right?
MR. GRUBOW: Objection to the form.
A. Correct. Also I'm -- I'm not offering any type of market analysis related to music.
Q. (BY MR. KING) Fair enough.
There are genres -- are there genres of music in which lyrics tend to play a more prominent role vis-a-vis the underlying music?
A. I -- I'm not sure exactly what you mean by "prominent," but I do believe certain genres focus on lyrics more than others. For example, classical music, there's operas and art songs. But in the symphonic literature, it's not common -- so common that -- in the -- in the common practice era, it was not so common to have lyrics. So, yes, I would say that certain genres of music are more likely to contain lyrics.
Q. Not only -- but my question is a little bit different. Aren't there genres of music in which lyrics

79

are more likely to hold a greater proportional value in a given composition? Like rap, for example. Lyrics are very important to rap, right?
MR. GRUBOW: Objection to the form.
A. I agree that lyrics are a component of rap music. As I discuss in my -- my paragraph on the sampler, the musical component of rap is also -- is a very integral part of that composition. You can think of whole careers that were made around beat making, for example. So I would argue in rap, lyrics are one component of the musical composition.
Q. (BY MR. KING) But often the non-lyrical elements of a rap piece, there might be no melody. There might be no harmony. It might be just a beat, right?
MR. GRUBOW: Objection to the form.
Q. (BY MR. KING) There are instances of that.
A. If you have a specific instance you would like to look at, I would be happy to analyze it with you; otherwise, I would be speculating on a hypothetical.
Q. I guess I'm asking --
A. I'm sorry. But I would say that even in, sort of, sample-based or loop-based design, often they're sampling -- they're sampling from music that contains -- could contain other lyrical content or a melodic content

80

or hormonic content. So I would say it's a simplification to say that -- that rap contains less -- fewer musical elements than -- than other music.
Q. Okay. But we -- since we're talking -- the subject of our discussion is whether there are genres where lyrics are more likely, let's say, to play a relatively more important role or have greater value. Do you disagree that rap is an instance where lyrics are -- or rap is a genre where lyrics are apt to have a greater relative value as against other musical elements?
MR. GRUBOW: Object to the form.
A. I would say that in rap, as when -- as with other genres, lyrics are one of many musical elements. And that they derive -- important meaning from -- from how they're set within that musical composition.
Q. (BY MR. KING) Are you a country music aficionado?
A. I -- I analyze a lot of music in my -- in my research, and I enjoy everything I analyze.
Q. Are you familiar if there's a clich in country music, three chords and the truth? Have you heard that clich?
A. I haven't heard that exact clich.
Q. It's by Harlan Howard. Do you know who that

81

is?
A. I recognize the name.
Q. Yeah, he's tight in the country music world.
So -- so, again, I'll represent to you in that world, three chords and the truth is sort of a clich for the notion that country music is really about the story told by the lyrics accompanied by, you know, maybe three chords.
Is that -- is that a -- putting aside whether you're familiar with that particular clich, do you recognize that for country music lyrics are often the most important element of the composition?
MR. GRUBOW: Object to the form. Also assumes facts not in evidence.
A. I -- I think that that statement is a simplification of -- of how country music works. First, I think it assumes that a simple chord progression has less meaning than a complex chord progression, which I don't -- I think musical repetition is one of the ways that composers and songwriters create meaning in their works. So I -- I wouldn't agree with that contention that -- that lyrics are relatively more important in a specific genre of music.
Q. (BY MR. KING) In paragraph -- actually multiple times throughout this report and also your

82

reply report, you reference Ariana Grande's "7 Rings," right?
A. I do.
Q. And I believe what you're observing in those instances is that while she's borrowing the melody but not the lyrics from "My Favorite Things," listeners can hear and recognize that musical composition as interpolated in her piece "7 Rings," right?
A. Yes, I believe that a listener that has heard the original song from Sound of Music would recognize those borrowed musical elements in "7 Rings."
Q. She does say my favorite things, doesn't she, Ariana Grande? So she does -- not withstanding this fact that you say she doesn't go into any of the lyrics. Just as a point of clarification, she does quote that lyric, my favorite things, right?
A. It's been some time since I've done this analysis. So I think if I were to speak to specific lyrics in that -- in that composition, I would need to have them in front of me.
Q. If someone were familiar with "My Favorite Things" and they heard raindrops and roses, whiskers on kittens, they would also probably recognize from which composition it came, right?
MR. GRUBOW: Object to the form.

83

A. I -- I think I would be guessing to -- to, sort of, answer a hypothetical question here. But I believe that, of course, as I said earlier, texts can have meaning too. It's how we communicate. So -- so, yes, of course, I think words can have meaning and can be memorable.
Q. (BY MR. KING) Well, weren't you guessing when you said that listeners could recognize the melody of "My Favorite Things" without hearing the lyrics? I mean, you were willing to guess in that instance but not to guess the converse, which is that people can recognize the song also by its lyrics?
MR. GRUBOW: Objection to the form.
A. I don't believe I was guessing in the first instance. In fact, I can recognize the melody from -- in "7 Rings." So I'm -- I'm basing this on -- on the fact that I find it to be recognizable, as do other people that I cite in this report.
Q. (BY MR. KING) In other words, your -- your -- your opinion with respect to Ariana Grande that people can recognize "My Favorite Things" is just based on your own personal ability to recognize the song? Not any scientific study you did about listener's ability to recognize "My Favorite Things" behind "7 Rings"?
A. I can --

84

MR. GRUBOW: Object to the form.
A. I can turn to the section where I discuss this, but I am not relying on my personal opinions. I'm relying on the documents I cite and the standard methodology of music theoretic research, as I do in all of my research work.
Q. (BY MR. KING) Okay. So then explain it to me. What is your scientific basis for saying that listeners -- let me ask the question a different way because -- because I really want to understand what you're saying.
You didn't do any kind of survey or study of listeners to determine how many of them could recognize the name "My Favorite Things" in "7 Rings," right?
MR. GRUBOW: Objection to the form.
A. I'm not a scientist, and it's not part of my -- part of my assignment here to conduct any scientific studies. My assignment here is to analyze how lyrics function within a larger musical composition. And I am applying the common methodologies of my field in this analysis.
Q. (BY MR. KING) So then what is your methodological basis, even if not scientific, for saying that listeners can recognize "My Favorite Things" in

Pages 89-96

89

I --
Q. But Ariana --
A. When it was appropriate, I -- I referred to publicly available sources.
Q. It's equally common sense that somebody who knows the song would recognize it by its lyrics alone too, right? "My Favorite Things"?
MR. GRUBOW: Object to the form.
A. I don't believe I said it was common sense that someone would recognize the melody in "7 Rings." I -- I was referring to "Happy Birthday." I said that I looked at -- I analyzed Ariana Grande's work through the common methodologies of music theory.
Q. (BY MR. KING) You just didn't tell -- tell us about those methodologies you applied to "7 Rings," did you, in your report?
MR. GRUBOW: Object to the form, mischaracterizes the document.
A. Yes, I believe that's a mischaracterization of my document. I discuss my methodologies, and I follow standard music theoretic, music historic, and musicological methodologies throughout just as I do in all of my research.
Q. (BY MR. KING) If you look at paragraph 23 of your report, that's Exhibit Number 3 on page 10, in the

90

middle of paragraph 23 you're talking about Adele's song, we all know, "Turning Tables." It says, (as read): The first verse with lyrics about fighting within a close relationship starts at a quiet dynamic with minimal instrumentation suggesting a fragile and defeated emotional state.
When you offer the opinion that that particular moment in Adele's song suggests a fragile and defeated emotional state, you're offering your subjective, not quantitative, assessment of the emotional effect of that moment of the song, right?
MR. GRUBOW: Object to the form.
A. I would disagree with your statement that music theoretic analysis of a -- of a work is subjective or my opinion. In fact, there's many peer-reviewed publications. I cite several from Music Theory Online, for example, that are focused on applying these music theoretic practices to popular music.
And my analysis here is -- is following those same -- those same traditions of analysis in which we have -- we have ascribed certain meanings to certain musical events. And we can analyze a composer's/songwriter's use of those musical events or their subversion of those musical expectations to analyze the meaning of a piece of music.

91

Q. (BY MR. KING) So going back to this phrase, you believe this -- this moment in Adele's song suggests a fragile, defeated emotional state. The lyrics certainly contribute to that suggestion of fragility and emotional defeat, don't they?
A. Absolutely. Words have meaning. It's how we can communicate today.
Q. And like I --
A. But as I show throughout this report, lyrics are one part of the musical composition and -- and they gain much of their meaning from their pairing with the other musical elements.
Q. Let's turn to paragraph 25. This is the one you're talking about musical texture, but I'll focus on actual examples you gave. So this is page 11, paragraph 25. You give an example of the Harry Styles' song sign -- "Sign of the Times" and you compare it to a non-lyrical version for a string quartet by Steven Horner, right?
If you added lyrics to the non-lyrical string quartet version, that might change the emotional effect and communication of that combined performance, right?
MR. GRUBOW: Object to the form.
A. Sure. So as I said in my last answer, words

92

do have meaning and words do contribute to the overall meaning of a song, just as they are a component of that song and if they are a component of that song. My -- my argument in this report is that those lyrics derive much of their meaning from the musical setting. Whether or not adding lyrics to Horner's arrangement would add meaning or add value or improve is a hypothetical situation. But in this situation, they -- they use -- he created purposefully, I imagine, an instrumental version without lyrics to accomplish the narrative and emotional goal that he was seeking.
Q. (BY MR. KING) Now, I guess you can tell I'm sort of hovering around the same subject matter. There are other experts in this case who have quoted your report as support for the positions they're taking. Have you seen those references where people have said: As Mr. Stokes said?
MR. GRUBOW: Objection to the form.
A. As I am sitting here now, I -- I don't have a memory of seeing references to my report as you state.
Q. (BY MR. KING) Well, some of those references suggest -- I'm sure my adversary will disagree with me -- that lyrics as a general matter are less valuable than other musical elements. I don't think that's the opinion you're offering today, is it?

93

MR. GRUBOW: Objection to the form, misstates the other reports that you're discussing.

A. I'm not -- I'm not an economist, so I'm not making any -- I'm not offering any economic opinions as to the relative value --

Q. (BY MR. KING) What do you mean value --

A. -- of elements of a musical composition. The way I'm discussing value in -- in this report, as we talked about earlier, is about the -- the narrative and emotional meaning of a song. And I believe lyrics are one component of those compositions that derive value from the other components.

Q. And -- and -- and you're -- you're not, sort of, assigning a general hierarchy, right? That as a general matter other musical elements are more important than lyrics or vice versa because presumably those contributions to emotional or expressive value vary song by song, genre by genre, right?

MR. GRUBOW: Objection to the form.

A. I'm not sure I understand your question. Would you mind rephrasing that?

Q. (BY MR. KING) Yeah. I mean, you're not -- you're -- I just want to be clear. You're not offering an opinion in general that in general, across all musical compositions, all genres, all composers, all

94

lyricists, lyrics tend to be less valuable than -- invaluable in your sense of the term -- than other musical elements? I believe you're just saying they're one among many, and they can be affected or invested with additional value by the musical setting to which they are put. Is that fair?

MR. GRUBOW: Objection to the form, misstates testimony.

A. Sure. I -- I would suggest we look back at 17A. I -- I -- I believe you're misstating my opinion in this section. I say, (as read): Musical compositions consists of many individual elements, with lyrics sometimes being one of them.

I say, (as read): Lyrics can be a meaningful part of a composition but derive much of their value and expression from the setting within the rest of the musical composition.

So I believe, as you stated your question, it was a misstatement of my opinion.

Q. (BY MR. KING) Okay. I didn't mean to misstate it. What -- what I'm trying to establish is the opinion I -- you just quoted from doesn't say categorically lyrics are less important than other musical elements. You're saying they're one among many musical elements, right?

95

A. I say they are --

MR. GRUBOW: Objection to the form.

THE WITNESS: I'm sorry.

A. I say they are -- they can be one element of a musical composition. And in the case that they are an element of musical composition, they derive much of their value from the -- the other musical elements with which they're set.

Q. (BY MR. KING) So let's look at the last sentence of paragraph 28 of your report, which is on page 14 of Stokes Exhibit Number 3. I think it echos what you just said. (As read): The non-lyrical elements of these songs are critical to how listeners remember them and derive meaning from hearing them.

Right?

A. Yes, I see those words.

Q. And there are certainly musical compositions in which the lyrical elements are also critical to how listeners remember them and derive meaning from them, right?

MR. GRUBOW: Objection to the form.

Q. (BY MR. KING) And I think you would agree.

A. I'm not sure where you're deriving that conclusion. If there's a specific part of my report, I'm happy to discuss it.

96

Q. (BY MR. KING) Well, I mean, you talk -- you said many times in this report: short of lyrics, you know, text has meaning, right? And you're sure to make that qualification, right? You're not denigrating lyrics. You're just talking about how they function in the context of musical composition, right?

MR. GRUBOW: Objection to the form.

A. There was a lot in that question, and I want to make sure I'm answering it specifically. I say, of course, text is meaningful; and, yes, I'm discussing how lyrics function within a song.

Q. (BY MR. KING) And that last sentence of paragraph 28 says, (as read): The non-lyrical elements of these songs are critical to how listeners remember them and derive meaning from hearing them.

As a general matter, lyrics can also, in various compositions, be critical to how listeners remember and derive meaning, right?

MR. GRUBOW: Objection to the form.

A. I -- I -- I feel like you are taking a step past what I'm saying here in this document. I believe I show many instances where the core emotional and narrative meaning of a song remains, even if the lyrics are changed or even if the lyrics are removed at all. For example, the Bridgerton example we just discussed.

Pages 133-136

133

single source of income for a single or a sub- -- a set of unique copyright owners, right? So it's not a different song in any economic or legal way. So you're just saying that those lyrics have different meaning in different musical settings, right?

MR. GRUBOW: Objection to the form.

A. I'm not an economist or a legal scholar or a lawyer, and I can't make any -- I can't support any opinions on any legal or economic topics. But I identify in this section how the same set of lyrics can be set to different -- can be used in multiple songs.

Q. (BY MR. KING) So when a set of lyrics is sufficiently adaptable that it can be used in these different settings, doesn't that actually increase the value of the lyrics, that different artists like to interpret them differently?

MR. GRUBOW: Objection to the form.

A. Would you mind restating that question for me?

Q. (BY MR. KING) Sure. Pete Seeger and Metallica both covered "Turn the Page." Something -- but put them in different musical settings, right?

A. Correct. They're in different -- these two songs have different musical settings.

Q. Right. But something about those lyrics compelled those two very well-known artists to use them.

134

The fact that they're adaptable to these different musical settings, doesn't that actually increase rather than reduce the value of those lyrics?

MR. GRUBOW: Objection to the form.

A. I believe your question makes assumptions on what these artists were thinking when they decided to create versions -- create songs with these lyrics, and I also can't speak to their compelling motivation or their compulsion, I think you put it, to record these songs.

Q. (BY MR. KING) Well, correct.

A. What I state in this paragraph is how these musical settings create different -- different musical outcomes based on their musical settings even using the same lyrics.

Q. But Metallica, obviously, thought there was some musical benefit to covering "Turn the Page." Something about those lyrics was sufficiently appealing to Metallica that they wanted to take those lyrics and place them in a different musical setting, right?

MR. GRUBOW: Objection to the form.

Q. (BY MR. KING) That's what a cover is.

A. I --

MR. GRUBOW: Objection to the form.

A. -- I can't speak to why Metallica or any other artist chose to cover a specific song.

135

Q. (BY MR. KING) Right. You actually speak at length about composers' intentions through both of your reports, right? You do offer the opinions on the intentions of composers.

MR. GRUBOW: Objection to the form.

A. I would be happy to look at any specific examples if you'd like to point me to something.

Q. (BY MR. KING) I will do that. Go to paragraph 53 of your report. It's on page 23 of Exhibit Number 3. You say, (as read): While the lyrics can convey expression, without these other musical elements, the lyrics alone cannot caman- -- communicate the same full message.

Is it also true that non-lyrical musical elements often cannot communicate the same full message if not paired with the lyrics? Is the converse true of what you said?

MR. GRUBOW: Objection to the form.

A. I show in this -- in this paragraph and the paragraphs coming after that -- that these musical examples I -- I analyze continue to convey significant meaning even without the lyrics. I quote specifically, (as read): This ability for music to remain recognizable and convey emotion even when stripped of lyrics demonstrate how lyrics are only one part of a

136

much broader set of musical elements.

This has also been -- I also cite Croatian duo 2Cellos, which in their instrumental cover of "Thunderstruck" has garnered wide popularity, and it started a significant -- significant career for them.

Additionally in my -- in my own career with the German electronic group Symphoniacs, we performed many instrumental covers of popular works. And they resinate with listeners, as is demonstrated by the popularity, as I cite in this paragraph.

Q. (BY MR. KING) Right. Let's talk about 2Cellos cover of AC/DC's "Thunderstruck." You note that they're -- I believe the number is -- you said their -- their YouTube video, which you cited has 284 million views, right?

A. I cite that as of the writing of this report.

Q. Right. Did you look at how many views the -- the version with lyrics has? The AC/DC version?

A. Okay. My understanding is there's no version with lyrics that 2Cellos released as far as --

Q. No, I'm talking about -- I'm talking about the -- the AC/DC version. That has lyrics, right?

A. It does. And, of course, the AT -- AC/DC version is -- is very popular. AC/DC also is very famous, so their -- their version is also very popular.

Pages 185-192

185

a particular use case, because there's plenty of evidence of this in this case, where someone just goes onto Claude and says: Write me a set of lyrics and then uses those lyrics in whatever way. It could be a beneficial way. It could be a commercial way, but uses them.

You're not including that as what you'd call an instance of a brainstorm partnership or collaborate, right? Because Claude can just generate lyrics with a simple one sentence text prompt. There's not much collaboration in that particular interaction, is there?

MR. GRUBOW: Objection to the form.

A. Yes. Also I feel like you're asking me to speculate on a hypothetical. So if there's a particular output case you would like to talk about, I think I would be happy to analyze it with you.

Q. (BY MR. KING) I'm trying to understand what you are sort of -- your definition of brainstorm -- you call it brainstorm partner or collaborator. That suggests some back and forth between the user and the model, right?

And so what I'm just saying: Does that exclude -- is it an instance of brainstorming with Claude simply to generate lyrics from a one-sentence

186

text prompt and then use those lyrics unedited? Is that a collaboration or partnership, or is that just farming out the creation of these lyrics to Claude?

MR. GRUBOW: Objection to the form.

A. In this example, if I engage with your hypothetical, a sentence can take a lot of forms. It can carry much information or little information. So if you're referring to a particular case, I would like to see that case that you're referring to and then I would be happy to analyze that with you.

Q. (BY MR. KING) You talk about using genAI as a translator, right? It's another way that it can assist music -- musicians and lyrists, right?

A. I do.

Q. Right. And you give examples, for example, Universal Music Group release of Brenda Lee's "Rockin'." The recording artist whose voice was cloned to sing in Korean and MIDNATT. Do you know that in all of those examples the recording artist -- or what I should say is -- the companies that released those obtained rights from the owners of the musical compositions to alter them via AI?

MR. GRUBOW: Objection to the form.

Q. (BY MR. KING) Did you know that?

MR. GRUBOW: Same objection.

187

A. I don't have any specific knowledge of -- of legal arrangements between -- between any artist or their publishers.

Q. (BY MR. KING) Let's talk about Subsection 3, paragraph 77. You give two examples of artists Holly Herndon and Grimes using genAI to create vocal recordings. But Holly Herndon trains her own AI models on her own voices and those of her collaborators, right?

MR. GRUBOW: Objection to the form.

A. In -- in these cases that I cite here, Holly Herndon and her creative partner -- who I'm drawing a blank on his name right now, I'm sorry. But in these cases, it's my understanding that Holly Herndon and her partner are, I believe, in an ongoing way training Spawn. Just as I'm trying our small research models at the University of North Texas, she's training this, sort of, purpose-built small model.

Q. (BY MR. KING) Right. Using -- using her own voice or the voice of her collaborat- -- in other words, self-created data as you defined it earlier, right? Like you used for Vega.

A. My understanding is that she is not training it just on her voice and the voice of her partner.

Q. Right. She uses other vocal choirs from whom she obtains consent, right?

188

MR. GRUBOW: Objection to the form.

A. Yes, I -- I did see that she trains with other groups of vocalists.

Q. (BY MR. KING) And the same thing with Grimes, right? Grimes basically has trained a model with her own voice so then she can then let other people use that model to apply her voice digitally, or however they do it, to their own works, right?

MR. GRUBOW: Objection to the form.

A. Yes, Claire Boucher or Boucher (pronouncing), also known as Grimes, I'm not sure if she trained it herself, but she was part of the creation of this tool called Grimes AI that allows users to, sort of, use her voice in a process that I think would fall under timbral transfer.

Q. (BY MR. KING) Fall under what?

A. Timbral transfer. I haven't studied this model in detail. But -- but I -- I would note in the very next sentence that she states specifically that she's happy, quote, to be a guinea pig for this technology as a way of moving research forward. And that she sees this as an extension of her creative work, not as a replacement for it.

Q. Right. Because she's effectively giving consent to the world to use the model that she

189

participated in training to use in their own creative pursuits, right?
MR. GRUBOW: Objection to the form.
A. I guess I understand consent to be a legal doctrine, and I -- I don't have any specific legal training to analyze whether or not she gives legal consent.
Q. (BY MR. KING) Let's skip to paragraph -- well, Subsection 5, it starts with paragraph 81.
A. Yes.
Q. You talk about how genAI actually creates musical personas, right?
A. I believe that's a slight misstatement of what I say. I say that some artists create virtual personas using genAI tools.
Q. Right. Well, we talked about one. The Velvet Sundown is a fully AI-generated musical group, right?
A. I'm aware of Velvet Sundown. I think it is -- in this case I'm -- I'm pointing to musical personas created by artists using genAI tools. So these examples are examples showing the extension or augmentation of artistic practice by genAI tools.
Q. Right. You used Timbaland as an example. What Timbaland does is he uploads samples of his own music and then alters it with AI, in this case Suno,

190

right?
A. Yes, I would say that -- that's accurate. That Tim- -- Timbaland uses -- at least as part of this process he's using -- uploading samples -- samples of his own music as part of a multi-model prompt. So he's prompting with text and samples of his music as well as working prompt engineering by working with the available settings of Suno.
Q. But, obviously, if he uploads his own samples and then alters those samples with Suno, he, as the owner of the underlying sample that was uploaded, has effectively consent -- consented to that process, right?
MR. GRUBOW: Objection to the form.
A. I -- I don't have a comprehensive understanding of Suno's privacy or -- or upload policies that might govern what happens with ownership or consent when you upload music to their service as a prompt. Even if I -- I did without a legal -- without legal training, I -- I wouldn't be qualified to -- to comment on -- on what happens with uploaded material in terms of ownership or consent.
Q. (BY MR. KING) So -- so in the case of Timbaland, as far as you know, his work, he's not using the generative -- Generative AI to create all of the musical elements sort of out of whole cloth in the first

191

instance, right? He's using it to modify his own preexisting creative work, right?
MR. GRUBOW: Objection to the form.
A. Well, my -- my understanding of -- of gen -- genAI is that it's generative, and that word suggests the creation of material to me. So in this case, he's uploading a sample of his music as well as a text prompt and adjusting settings, but what he's getting back from that is not a replication of his upload. He's using it to expand and -- and augment his artistic process.
Q. (BY MR. KING) Now, there are artists -- or I shouldn't say artists. There are people who create entirely AI-generated musical personas, right? Artists who are entirely virtual. They don't exist in the real world, right?
A. If you're referring to a specific case, I guess I would be happy to look at that, but I don't want to speculate on a hypothetical case.
Q. Well, are you aware of that? For instance, The Velvet Sundown, I mentioned, Xania Monet, there's certain AI-generated artists that have been successful. Have you heard that generally, whether you know about them specifically or not?
A. I've heard of The Velvet Sundown. I don't have any particular knowledge as to who -- who created

192

that work or what their process was in creating that work.
Q. But a band like that, right, has the ability to displace or divert royalties, for example, away from human artists, doesn't it?
MR. GRUBOW: Objection to the form.
A. As I stated, my qualifications for this report, I give my areas of expertise and -- and one of those areas is -- is not economics. And as such, I haven't done an economic analysis of market share of any particular style of music.
Q. (BY MR. KING) Now, you spoke earlier and you speak in your report about the benefits of using large heterogenous datasets or I guess -- I don't know what to call them -- you call them frontier models, which is called, sort of, large general purpose LLMs. Is that fair?
A. Yes, I discuss at the beginning of Section IV, I believe.
Q. Yeah, I was looking specifically at paragraph 86.
A. Okay. Thank you.
Q. And it really starts paragraph 84.
A. Yeah.
Q. One of the benefits or the purposes of using a

Pages 233-236

233

A. I would -- I would say that I am offering this from my expertise as a composer and songwriter. But if we're discussing music as being primary relation -- primarily relational, this relationship -- it's my understanding this relationship is between the composer/songwriter and whoever is ingesting that music or -- or interacting with --

Q. The audience.

A. The audience, yeah.

Q. Right. But you haven't done a study of how music -- music listeners as a general category perceive music? I mean, you haven't done that as a scientific study. What you've done is you've looked at the tools composers use to convey different kinds of emotions and offered a view on that, right?

MR. GRUBOW: Objection to the form.

Q. (BY MR. KING) I'm not trying to limit your opinion. I'm trying to understand the perspective you're bringing to it.

A. Sure. I've -- I've constructed these opinions using the methodology of music theory, musicology, musicol- -- I'm sorry -- music history. I'm not a scientist. I -- I'm not purporting to offer scientific opinions. But with my expertise as a composer/songwriter, I'm offering an opinion based on

234

these established methodologies.

Q. Okay.

MR. KING: I have no further questions.

MR. GRUBOW: Can we go off the record for a minute?

THE VIDEOGRAPHER: Yeah, we're going off the record at 3:20 p.m.

(Discussion held off the record.)

THE VIDEOGRAPHER: We are back on the record at 3:21 p.m.

MR. GRUBOW: I just want to reserve the right for the witness to read and sign the transcript. And I will designate the transcript as highly confidential - attorneys' eyes only under the protective order in this case as we have done as common practice. And no further questions for me.

MR. KING: Thanks for your time.

THE VIDEOGRAPHER: We're going off the record at 3:22 p.m.

(Deposition concluded at 3:22 p.m.)

235

CHANGES AND SIGNATURE

Reason Codes: (1) to clarify the record; (2) to conform to the facts; (3) to correct a transcription error; (4) other (please explain).

PAGE	LINE	CHANGE	REASON

236

I, COLIN STOKES, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

_____

COLIN STOKES

THE STATE OF _____)
COUNTY OF _____)

Before me, _____, on this day personally appeared COLIN STOKES, known to me (or proved to me under oath or through _____) (description of identity card or other document)) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.