

1 CASE NUMBER: LA067366
2 CASE NAME: PEOPLE VS. ROGER KNIGHT
3 LOS ANGELES, CALIFORNIA, APRIL 27, 2012
4 DEPARTMENT NW "S" HON. MICHAEL JESIC, JUDGE
5 REPORTER: LEANNA J. ROESSELL, CSR NO. 11240
6 TIME: P.M. SESSION
7

8 APPEARANCES:

9 DEFENDANT WAS PRESENT WITH COUNSEL,
10 HARRY MCKEE, DEPUTY PUBLIC DEFENDER;
11 JAY GROBESON, REPRESENTING THE PEOPLE
12 OF THE STATE OF CALIFORNIA.
13

14 (PROCEEDINGS PRIOR TO THIS WERE
15 REPORTED, NOT ORDERED TRANSCRIBED.)
16

17 THE CLERK: PLEASE RAISE YOUR RIGHT HAND.

18 THE WITNESS: YES.

19 THE CLERK: DO YOU SOLEMNLY STATE THAT THE TESTIMONY
20 YOU'RE ABOUT TO GIVE IN THE CAUSE NOW PENDING BEFORE THIS
21 COURT SHALL BE THE TRUTH, THE WHOLE TRUTH, AND NOTHING BUT
22 THE TRUTH, SO HELP YOU GOD?

23 THE WITNESS: I DO.
24

25 ALICIA CARRIQUIRY,
26 CALLED AS A WITNESS BY THE DEFENSE, HAVING BEEN FIRST DULY
27 SWORN, WAS EXAMINED AND TESTIFIED AS FOLLOWS:
28

1 THE CLERK: YOU MAY BE SEATED.

2 PLEASE STATE AND SPELL YOUR FIRST AND LAST NAME.

3 THE WITNESS: MY FIRST NAME IS ALICIA, A-L-I-C-I-A. MY
4 LAST NAME IS CARRIQUIRY, C-A-R-R-I-Q-U-I-R-Y.

5 THE CLERK: THANK YOU.

6

7

DIRECT EXAMINATION

8

9 BY MR. MCKEE:

10 Q GOOD MORNING, DR. CARRIQUIRY.

11 A GOOD MORNING.

12 Q NOW, LET'S START WITH YOUR EDUCATIONAL BACKGROUND
13 AND YOUR PROFESSIONAL BACKGROUND?

14 A I HAVE A -- I HAVE A DEGREE IN ENGINEERING FROM
15 THE UNIVERSITY OF URUGUAY, A MASTERS IN ANIMAL GENETICS FROM
16 THE UNIVERSITY OF ILLINOIS, A MASTERS IN STATISTICS FROM
17 IOWA STATE UNIVERSITY, AND A PH.D. IN STATISTICS AND ANIMAL
18 GENETICS FROM IOWA STATE UNIVERSITY.

19 MR. MCKEE: THANK YOU.

20 YOUR HONOR, THERE IS A DEFENSE MOTION TO EXCLUDE
21 WITNESSES AT THIS TIME.

22 THE COURT: IS THIS WITNESS YOURS?

23 MR. GROBESON: YES, YOUR HONOR.

24 MR. MCKEE: THANK YOU.

25 Q DR. CARRIQUIRY. NOW, IN TERMS OF YOUR
26 PROFESSIONAL BACKGROUND, HAVE YOU HAD THE OPPORTUNITY
27 PROFESSIONALLY TO STUDY THE FIELD THE BALLISTICS?

28 A YES, SOMEWHAT. I WAS A MEMBER OF THE NATIONAL

1 ACADEMY OF SCIENCES COMMITTEE THAT ISSUED A REPORT IN
2 BALLISTICS IMAGING.

3 Q NOW, WAS THIS A STUDY THAT WAS -- YOU WERE A PART
4 OF A COMMITTEE BELONGING TO THE NATIONAL ACADEMY OF
5 SCIENCES?

6 A YES.

7 Q NOW, DID YOU ALSO PARTICIPATE IN A STUDY
8 SPONSORED BY THE FBI --

9 A OH, YEAH.

10 Q -- WITH BULLET LEAD COMPARISON EVIDENCE?

11 A I WAS A PRINCIPAL INVESTIGATOR ON A STUDY THAT
12 WAS FUNDED BY THE FBI IN 2000 -- ABOUT 2000 THAT HAD THE
13 OBJECTIVE OF INVESTIGATING WHETHER ONE COULD PUT
14 PROBABILISTIC STATEMENTS ON BULLET LEAD EVIDENCE LIKE ONE
15 CAN DO WITH DNA. WE FOUND THAT IT WAS VERY DIFFICULT TO
16 ESTABLISH THAT BULLET LEAD EVIDENCE HAD ANY PROBATIVE VALUE;
17 IN OTHER WORDS, THAT THE PROBABILITY OF COINCIDENTAL MATCHES
18 COULD BE NONNEGLECTIBLE. THIS LED TO THE ACADEMY OF SCIENCES
19 ESTABLISHING A PANEL THAT WOULD INVESTIGATE BULLET LEAD
20 ANALYSIS AND CAME UP WITH A REPORT THAT ESSENTIALLY SAID THE
21 SAME THINGS WE HAD SAID BEFORE.

22 Q THANK YOU. NOW, VERY BRIEFLY COULD YOU EXPLAIN
23 WHAT THIS BULLET COMPARISON LEAD EVIDENCE WAS? WHAT IT
24 ENTAILED?

25 A SURE. SO THE TIP OF THE AMMUNITION IS MADE
26 TYPICALLY OF A LEAD ALLOY. THIS LEAD ALLOY HAS SOME
27 IMPURITIES, BUT IT ALSO HAS SOME ADDED TRACE ELEMENTS THAT
28 MANUFACTURERS PUT IN FOR WHATEVER REASON FOR IMPROVING

1 HARDNESS OR MALLEABILITY OF THE MATERIAL OR WHAT HAVE YOU.

2 THE FBI -- THE FBI LABS USED TO ROUTINELY ANALYZE
3 THE CHEMICAL COMPOSITION OF THE LEAD IN BULLETS OR BULLET
4 FRAGMENTS FOUND AT CRIME SCENES AND BULLETS THAT WOULD BE
5 FOUND WITH THE SUSPECT, MAYBE UNSPENT BULLETS THAT HAD BEEN
6 RECOVERED FROM THE SUSPECT OR FROM THE SUSPECT'S HOME. AND
7 THE -- THE TYPICAL -- SO THEY LOOKED AT MANY ELEMENTS, FIVE
8 OF THEM WERE THE ONES THAT THEY LOOKED AT MOST OFTEN. AND
9 IF A MATCH WAS ESTABLISHED, IF THEY SAW THAT THE SAMPLES
10 FOUND AT THE CRIME SCENE AND THE SAMPLES RECOVERED FROM THE
11 SUSPECT COINCIDED IN TERMS OF CHEMICAL COMPOSITION, THEN A
12 MATCH WAS DECLARED, AND A SINGLE SOURCE WAS ASSUMED FOR THE
13 TWO SAMPLES.

14 IN OTHER WORDS, FBI WOULD SAY, OR THE SAME BATCH
15 OF LEAD OR PERHAPS SOMETIMES EVEN THE SAME BOX OF AMMUNITION
16 HAS PRODUCED THESE TWO SAMPLES. AND WHAT WE -- THE FBI
17 PROVIDED THE DATA THAT WE ANALYZED FOR THEM. AND WHAT WE
18 FOUND WAS THAT EVEN IF I COULD ESTABLISH A MATCH BETWEEN TWO
19 SAMPLES, THAT IN NO WAY IMPLIED A SINGLE SOURCE FOR THE TWO
20 SAMPLES.

21 SO THE PROBLEM WAS A STATISTICAL PROBLEM. THE
22 QUESTION IS WHAT IS THE PROBABILITY THAT TWO SAMPLES WILL
23 MATCH EVEN IF THEY HAVE A DIFFERENT SOURCE.

24 Q AND THAT IS KNOWN AS THE COINCIDENTAL MATCH
25 PROBABILITY?

26 A THAT'S CORRECT.

27 Q NOW, AS A RESULT OF YOUR FINDINGS IN THIS STUDY,
28 DOES THE FBI STILL USE THIS BULLET LEAD COMPARISON EVIDENCE?

1 A NO.

2 MR. GROBESON: OBJECTION. CONCLUSION AS TO THE
3 MOTIVATIONS OF THE FBI.

4 THE WITNESS: OKAY.

5 THE COURT: SUSTAINED.

6 BY MR. MCKEE:

7 Q ARE YOU AWARE --

8 MR. GROBESON: MOTION TO STRIKE.

9 THE COURT: THAT PART WILL BE -- THAT PARTIAL ANSWER
10 WILL BE STRICKEN.

11 BY MR. MCKEE:

12 Q THIS WAS A STUDY THAT WAS COMMISSIONED BY THE
13 FBI, CORRECT?

14 A TO US, YES. OUR STUDY WAS COMMISSIONED BY THE
15 FBI, WAS FUNDED BY THE FBI.

16 Q AND SUBSEQUENT TO YOUR STUDY IS THE FBI STILL
17 USING COMPARISON -- BULLET LEAD COMPARISON EVIDENCE?

18 A THEY CONTINUED USING IT SUBSEQUENT TO OUR STUDY.
19 THEY DISCONTINUED THE USE AFTER THE ACADEMY OF SCIENCES
20 REPORT CAME OUT.

21 Q AND THE ACADEMY OF SCIENCES, THAT'S A NATIONAL
22 ACADEMY OF SCIENCES?

23 A YES.

24 Q SPEAKING OF WHICH, IN TERMS OF YOUR PROFESSIONAL
25 EXPERIENCES, DID YOU ALSO SERVE AS A MEMBER ON A COMMITTEE
26 OF THE NATIONAL ACADEMY OF SCIENCES?

27 A I HAVE SERVED ON MANY COMMITTEES IN THE NATIONAL
28 ACADEMY OF SCIENCES. I'M A MEMBER OF A COUPLE OF STANDING

1 COMMITTEES RIGHT NOW. ONE IS A COMMITTEE ON NATIONAL
2 STATISTICS. I HAVE SERVED ON COMMITTEES THAT HAVE TO DO
3 WITH READJUSTMENT OF VETERANS COMING BACK FROM WAR,
4 NUTRITION ISSUES, SOCIAL PROGRAMS LIKE WIC, BALLISTICS. THE
5 ACADEMY OF SCIENCES IS THE ORGANIZATION THAT ADVISES THE
6 GOVERNMENT -- ADVISES THE NATION ON ANYTHING THAT HAS TO DO
7 WITH SCIENCE IN ALL AREAS.

8 Q NOW, SPECIFICALLY, WITH REGARD TO BALLISTICS, DID
9 YOU SERVE ON A COMMITTEE OF THE NATIONAL ACADEMY OF SCIENCES
10 CHARGED WITH ASSESSING THE TECHNICAL FEASIBILITY OF THE
11 NATIONAL BALLISTICS DATABASE?

12 A YES, I DID.

13 Q AND CAN YOU -- AND THIS WAS A PROJECT THAT WAS
14 SPONSORED BY THE NATIONAL INSTITUTE OF JUSTICE?

15 A YES. AND A COUPLE OTHER ORGANIZATIONS, YES.

16 Q THE OFFICE OF JUSTICE, J-U-S-T-I-C-A, PROGRAMS?

17 A YES.

18 Q AS WELL AS THE U.S. DEPARTMENT OF JUSTICE?

19 A RIGHT.

20 Q NOW, TELL US BRIEFLY ABOUT THE WORK YOU DID ON
21 THAT COMMITTEE.

22 A SO THE COMMITTEE WAS CHARGED WITH INVESTIGATING
23 WHETHER COMING UP WITH A NATIONAL DATABASE OF FIREARMS WOULD
24 BE PRACTICAL AND EVEN FEASIBLE. THE IDEA -- THIS CAME AFTER
25 THE SHOOTING IN DC. REMEMBER THE SNIPER SHOOTINGS? AND THE
26 QUESTION WAS WHETHER ONE COULD COME UP WITH A BIG REPOSITORY
27 OF THE TYPE OF MARKINGS THAT DIFFERENT FIREARMS WOULD LEAVE
28 ON CASINGS AND BULLETS AND BREECH FACE -- AND, YOU KNOW, THE

1 BREECH FACE MARKINGS AND SO ON, ON DIFFERENT TYPES OF
2 AMMUNITION, AND SO ON.

3 AND SO THAT ONE WOULD HAVE THIS BIG DATABASE THAT
4 ONE COULD -- ANYONE GO AND CONSULT EVERY TIME A BULLET WAS
5 FIRED AND MARKS WERE OBSERVED.

6 AND SO THE IDEA WAS TO TEST EVERY GUN THAT WAS
7 SOLD IN THE UNITED STATES TO ADD TO THIS DATABASE, AND EVERY
8 BEGUN THAT WAS IMPORTED INTO THE UNITED STATES, AND SO ON.
9 AND IT BECAME PRETTY CLEAR PRETTY QUICKLY, THIS WAS A VERY
10 LARGE COMMITTEE, IT WAS A VERY WIDE RANGE OF EXPERTS. THERE
11 WAS A FIREARMS EXAMINER. THERE WERE A COUPLE METALLURGIC
12 PEOPLE.

13 THERE WERE FIVE -- FOUR OR FIVE STATISTICIANS,
14 AND SO ON. AND THE CONCLUSION WAS THAT AT THIS TIME IT IS
15 NOT FEASIBLE TO CONSTRUCT SUCH A DATABASE, MOSTLY BECAUSE
16 THE COMMITTEE FOUND THAT AN IMPORTANT ASSUMPTION, WHICH IS
17 THE ASSUMPTION THAT GUNS LEAVE UNIQUE AND REPRODUCIBLE MARKS
18 ON ALL BULLETS HASN'T BEEN PROVED. AND SO IT WAS -- THAT'S
19 WHERE WE STOPPED.

20 Q SO, THIS ASSUMPTION OF UNIQUENESS IS A
21 FUNDAMENTAL ASSUMPTION UNDERLYING FIREARM EXAMINERS'
22 COMPARISONS?

23 A YES.

24 Q TOOL MARKS?

25 A YES.

26 MR. GROBESON: OBJECTION. FOUNDATION.

27 THE COURT: SUSTAINED.

28 MR. GROBESON: MOTION TO STRIKE.

1 THE COURT: THE ANSWER WILL BE STRICKEN.

2 BY MR. MCKEE:

3 Q DURING THE COURSE OF YOUR WORK ON THE COMMITTEE,
4 WITH REGARD TO THIS NATIONAL BALLISTICS DATABASE, DID YOU
5 GAIN TRAINING AND EXPERIENCE WITH REGARD TO THIS FUNDAMENTAL
6 ASSUMPTION OF UNIQUENESS?

7 A WELL, YEAH. I MEAN, DURING THE COURSE OF THE
8 COMMITTEE, WE DID A LOT OF READING. WE INTERVIEWED A WHOLE
9 LOT OF PEOPLE INCLUDING FIREARMS AND POLICE PEOPLE AND SO
10 ON, AND EXPERTS IN EVERY -- ON EVERY SIDE OF THE ISSUE. AND
11 WHAT THE COMMITTEE CONCLUDED IS THAT THE ASSUMPTION OF
12 UNIQUENESS HAS YET TO BE PROVEN.

13 Q NOW, IS THERE ANOTHER ASSUMPTION AT THE CORE OF
14 FIREARM MARKS COMPARISONS OTHER THAN UNIQUENESS?

15 A YEAH. IT'S THE ASSUMPTION OF REPRODUCIBILITY.
16 SO UNIQUENESS MEANS THAT EACH FIREARM IS GOING TO BE LEAVING
17 INDIVIDUAL MARKINGS ON THE AMMUNITION IT FIRES THAT NO OTHER
18 GUN IN THE ENTIRE UNIVERSE IS GOING TO BE LEAVING.
19 REPRODUCIBILITY SAYS THAT THAT SAME FIREARM IS GOING TO BE
20 LEAVING THE SAME MARKS TIME AFTER TIME AFTER TIME ON THE --
21 ON ANY TYPE OF AMMUNITION IT FIRES. AND NONE OF THOSE
22 TWO -- AND IT WAS NOT ONLY MY COMMITTEE. THE NATIONAL
23 ACADEMY REPORTS COMMITTEE THAT CAME AFTER US, THE ONE THAT
24 TALKED ABOUT FORENSIC SCIENCE IN GENERAL, SAID THE EXACT
25 SAME THING, IS THAT NONE OF THESE TWO ASSUMPTIONS HAVE BEEN
26 GROUNDED ON ANY SCIENCE AND STILL NEED TO BE PROVEN.

27 Q NOW, YOU MENTIONED THAT YOU HAD READ VARIOUS
28 ARTICLES?

1 A YES.

2 Q SO ARE YOU FAMILIAR WITH THE LITERATURE ON
3 FIREARM MARKS EXAMINATIONS?

4 A WELL, WHATEVER YOU CAN FIND BECAUSE MUCH OF IT
5 APPEARS IN THIS AFTE JOURNAL THAT IS NOT AVAILABLE TO THE
6 PUBLIC EXCEPT SOME ISSUES. AND SO IN THAT SENSE, IT'S NOT A
7 SCIENTIFIC JOURNAL. SO, YES, SOME OF THE THINGS I HAVE
8 READ. BUT SOME ARTICLES ARE HARD TO FIND.

9 IN FACT, I WAS READING AN ARTICLE BY THE
10 DEKINDER, NOT TOO LONG AGO, AND WAS HAVING -- I WAS LAUGHING
11 AT MYSELF BECAUSE HE SAID THAT SOME OF THE ARTICLES IN THE
12 AFTE JOURNALS ARE NOT ACCESSIBLE.

13 Q AND MR. DEKINDER, HIMSELF, IS MEMBER OF THE AFTE,
14 WHICH STANDS FOR THE --

15 A ASSOCIATION --

16 Q ASSOCIATION OF FIREARM AND TOOL MARKS EXAMINERS?

17 A RIGHT. IT'S A TRADE ASSOCIATION.

18 Q AND IT'S NOT PEER REVIEW?

19 A NO.

20 Q NOW, HAVE YOU REVIEWED AND CONSIDERED ANY
21 ARTICLES IN PARTICULAR IN PREPARATION FOR YOUR TESTIMONY
22 TODAY?

23 A YES, I HAVE. I HAVE READ SEVERAL ARTICLES.
24 THESE WERE ARTICLES, TOO, THAT THE COMMITTEE -- THE NATIONAL
25 ACADEMY OF SCIENCES COMMITTEE ALSO REVIEWED. ONE OF THEM IS
26 A -- WELL, THERE'S A SERIES OF THREE ARTICLES BY THE MILLER,
27 JEFFREY MILLER, I THINK. JEREMY MILLER. THE ONE THAT IS
28 MOST INTERESTING TO ME IS THE SECOND ONE IN THAT SERIES.

1 THE ARTICLE THAT I TALKED ABOUT BY DEKINDER AND SOMEBODY
2 ELSE. WHAT'S HIS NAME?

3 Q BONFANTI?

4 A BONFANTI.

5 Q SPELLED, B-O-N-F-A-N-T-I.

6 A THEN SEVERAL OTHER ARTICLES, THERE'S A FANTASTIC
7 WRITE-UP BY -- HOLD ON. THERE'S A FANTASTIC WRITE-UP BY THE
8 HONORABLE HARRY T. EDWARDS, THE CHIEF JUDGE EMERITUS OF THE
9 UNITED STATES COURT OF APPEALS FOR THE DC CIRCUIT. THAT
10 SHOULD BE -- THAT SHOULD BE OBLIGATORY READ TO ANYBODY IN
11 THE LAW.

12 AND I READ -- WELL, SEVERAL OTHERS. I HAVE THEM
13 ALL HERE.

14 Q OKAY. ARE YOU A MEMBER OF ANY PROFESSIONAL
15 ORGANIZATIONS?

16 A I'M A MEMBER OF MANY PROFESSIONAL ORGANIZATIONS.
17 I'M A MEMBER OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT
18 OF SCIENCES, OF THE AMERICAN STATISTICAL ASSOCIATION, OF THE
19 INSTITUTE OF MATHEMATICAL STATISTICS, OF THE INTERNATIONAL
20 STATISTICAL INSTITUTE.

21 I HAVE -- THE INTERNATIONAL SOCIETY FOR BASE AND
22 ANALYSIS.

23 I HAVE BEEN PRESIDENT OF THE INTERNATIONAL
24 SOCIETY FOR BASE AND ANALYSIS, VICE PRESIDENT OF THE
25 AMERICAN STATISTICAL ASSOCIATION, MEMBER OF THE BOARD OF
26 DIRECTORS OF THE NATIONAL INSTITUTE FOR STATISTICAL
27 SCIENCES, MEMBER OF THE BOARD OF DIRECTORS OF THE
28 INTERNATIONAL STATISTICAL INSTITUTE.

1 Q AND THESE ORGANIZATIONS ARE ALL PRIMARILY FOR
2 SCIENTISTS?

3 A YES. AND ANYBODY CAN BE A MEMBER OF ANY OF THESE
4 ORGANIZATIONS. ANY SCIENTIST, OF COURSE.

5 Q NOW, ARE YOU ALSO AFFILIATED WITH THE DEPARTMENT
6 OF STATISTICS AT THE IOWA UNIVERSITY.

7 A I AM A DISTINGUISHED PROFESSOR OF STATISTICS AT
8 IOWA STATE UNIVERSITY. I AM ALSO A MEMBER THE FACULTY IN
9 THE FORENSIC SCIENCES CERTIFICATE PROGRAM AT IOWA STATE.
10 WHAT ELSE CAN I TELL YOU?

11 Q AND SO YOU'VE ACTUALLY SERVED IN A TEACHING
12 CAPACITY WITH REGARD TO FORENSIC SCIENCES?

13 A YES.

14 Q NOW, HAVE YOU BEEN QUALIFIED AS AN EXPERT WITNESS
15 IN COURTROOM TESTIMONY?

16 A YES.

17 Q REGARDING FIREARM MARKS EXAMINATION EVIDENCE?

18 A YES.

19 Q NOW, DOES YOUR BACKGROUND, YOUR EDUCATION, YOUR
20 TRAINING, YOUR PROFESSIONAL EXPERIENCE ENABLE YOU TO
21 EVALUATE THE EMPIRICAL VALIDITY OF FIREARMS EXAMINERS'
22 IDENTITY OPINIONS WHERE THEY CLAIM A MATCH BASED ON TOOL
23 MARKS AS WELL AS THE METHODOLOGY THEY USE?

24 A ABSOLUTELY. AT LEAST IN TERMS OF THE
25 INTERPRETATION OF THE RESULTS OF FIREARMS EXAMINING. I
26 BELIEVE I AM MORE QUALIFIED THAN FIREARMS EXAMINERS
27 THEMSELVES. INTERPRETING THE RESULTS OF FIREARMS EXAMINING
28 INVOLVES UNDERSTANDING PROBABILITIES, STATISTICS, ERRORS.

1 THE QUANTITATIVE INTERPRETATION OF THIS TYPE OF EVIDENCE
2 BELONGS TO STATISTICIANS, NOT TO THE PRACTITIONERS.

3 Q AND HAVE YOU, IN FACT, BASED ON EVERYTHING YOU'VE
4 TOLD US, EVALUATED THE EMPIRICAL VALIDITY OF FIREARM
5 EXAMINERS IDENTITY OPINIONS IN THIS CASE?

6 A YES.

7 Q AS WELL AS THE METHODOLOGY USED?

8 A YES.

9 MR. MCKEE: ON THAT BASIS I WOULD TENDER THIS WITNESS
10 AS AN EXPERT FOR ASSESSING THE FORENSIC DISCIPLINE OF
11 FIREARM MARKS EXAMINATION WITH REGARD TO ANY EMPIRICAL
12 VALIDITY FOR IDENTITY OPINIONS, AS WELL AS METHODOLOGY USED.

13 THE COURT: HAVE TO BE HONEST WITH YOU. I'M A LITTLE
14 LOST. SHE'S NOT A FIREARMS EXPERT, BUT SHE'S AN EXPERT IN
15 STATISTICS.

16 THE WITNESS: UH-HUH.

17 MR. MCKEE: YES.

18 THE COURT: SO I'LL LET HER OFFER AN OPINION AS TO
19 STATISTICS ONLY.

20 BY MR. MCKEE:

21 Q BASED ON YOUR REVIEW --

22 THE COURT: SHE'S NODDING HER HEAD YES. SHE AGREES
23 WITH THAT.

24 BY MR. MCKEE:

25 Q I WAS WONDERING IF I COULD JUST SUPPLEMENT?

26 BASED ON YOUR REVIEW OF THE LITERATURE AND YOUR
27 WORK ON THE COMMITTEE, OF THE NATIONAL ACADEMY OF SCIENCES?

28 A UH-HUH.

1 Q WHICH RESULTED IN A 300-PLUS PAGE TREATISE
2 ENTITLED BALLISTICS IMAGING.

3 A YES.

4 Q AND YOUR REVIEW OF ALL OF THE PERTINENT
5 LITERATURE WITH REGARD TO FIREARM MARKS EXAMINATIONS, DO YOU
6 FEEL THAT YOU ARE QUALIFIED TO RENDER OPINIONS WITH REGARD
7 TO THE METHODOLOGY USED BY FIREARM MARKS EXAMINERS?

8 A YES.

9 MR. MCKEE: YOUR HONOR, I WOULD ASK TO ALSO TENDER HER
10 AS AN EXPERT WITH REGARD TO THE METHODOLOGY USED BY FIREARM
11 MARK EXAMINERS, GIVEN HER EXTENSIVE EXPERIENCE IN FORENSIC
12 SCIENCE, AS A MEMBER OF THE COMMITTEE OF THE NATIONAL
13 ACADEMY OF SCIENCES, WHICH SPECIFICALLY RESULTED IN AN
14 EXHAUSTIVE TREATISE ON BALLISTICS IMAGING AND DISCUSS THE
15 METHODOLOGY THAT FIREARMS MARKS EXAMINERS USED, AND BASED ON
16 HER REVIEW OF THE LITERATURE, AND HER DISCUSSION, AND
17 INTERVIEWS WITH PERTINENT MEMBERS OF THIS FIELD.

18 THE COURT: BASED ON -- SUBJECT TO A MOTION TO STRIKE.

19 MR. MCKEE: THANK YOU.

20 MR. GROBESON: EXCUSE ME, YOUR HONOR. MIGHT I TAKE THE
21 WITNESS ON VOIR DIRE?

22 THE COURT: YES.

23 THE WITNESS: WHAT DOES THAT MEAN?

24 THE COURT: HE'S GOING TO ASK YOU SOME QUESTIONS.

25

26 EXAMINATION (VOIR DIRE)

27

28 BY MR. GROBESON:

1 Q HAVE YOU HAD ANY TRAINING SPECIFICALLY WITH
2 FIREARMS AND TOOL MARKS IDENTIFICATION?

3 A NO. ASIDE FROM SHOOTING A COUPLE OF THEM.

4 Q WHAT STUDIES OR RESEARCH HAVE YOU PARTICIPATED IN
5 INVOLVING TOOL MARKS AND THE REPRODUCIBILITY?

6 A I HAVE LOOKED AT DATA THAT ARISES FROM STUDIES
7 THAT ARE DONE BY TOOL MARKS EXAMINERS, SO-CALLED STUDIES.

8 Q BUT YOU YOURSELF HAVE NEVER PARTICIPATED IN ONE?

9 A AS IN PUT MY EYES IN A COMPARISON MICROSCOPE AND
10 LOOKED THROUGH IT?

11 Q YES.

12 A YES, ACTUALLY, I'VE DONE THAT, TOO.

13 Q ON HOW MANY OCCASIONS?

14 A ON ONE.

15 Q YOU'RE NOT GOING TO PROFESS ANY EXPERTISE IN
16 THAT FIELD, ARE YOU?

17 A TRYING TO FIGURE OUT WHETHER TWO LINES MATCH UP?
18 NO.

19 Q YOU'RE NOT SUGGESTING THAT YOU ARE AN EXPERT IN
20 EVALUATING CARTRIDGE CASINGS OR BULLETS AND COMPARING?

21 A TO SEE WHETHER I CAN FIND A MATCH THAT SOMEBODY
22 ELSE CAN NOT FIND, FOR EXAMPLE?

23 Q YES.

24 A NO. NO.

25 Q FOR INSTANCE, IF SOMEONE CAME TO YOU WITH FOUR
26 SEPARATE CASINGS AND ASKED YOU TO COMPARE THEM FOR UNIQUE
27 MARKINGS, YOU WOULDN'T EVEN ATTEMPT THAT, WOULD YOU?

28 A IF SOMEBODY CAME TO COMPARE -- WITH FOUR

1 DIFFERENT CASINGS, THE FIRST THING TO SAY, HERE'S A BUNCH OF
2 THE LINES, DO THEY MATCH OR NOT?

3 Q YEAH.

4 A WELL, I COULD -- I COULD PROBABLY LOOK THROUGH
5 THE COMPARISON MICROSCOPE THE SAME AS EVERYBODY ELSE AND,
6 YOU KNOW, MIGHT MAKE A MISTAKE. BUT PERHAPS I WOULD.

7 Q ARE YOU SUGGESTING THAT YOU HAVE ANY SPECIALIZED
8 TRAINING THAT WOULD ENABLE YOU TO MAKE THAT COMPARISON?

9 A NO.

10 Q ARE YOU A MEMBER OF THE ASSOCIATION OF FIREARM
11 TOOL MARK EXAMINERS?

12 A NO.

13 Q ARE YOU CERTIFIED IN ANY AREA OF THE FIRE AND
14 TOOL MARK DISCIPLINES?

15 A NO.

16 Q DO YOU HAVE ANY PUBLICATIONS DEALING WITH THOSE
17 DISCIPLINES?

18 A YES. ONE FROM THE NATIONAL ACADEMY OF SCIENCES.

19 Q THAT WOULD BE THE BALLISTIC IMAGING?

20 A YES.

21 Q NOW, WITH THAT BALLISTIC IMAGING STUDY, IT WAS
22 NOT THE FUNCTION OF THE COMMITTEE TO ASSESS THE GENERAL
23 VALIDITY OF THE FIREARMS IDENTIFICATIONS AND TOOL MARK
24 EXAMINATION, WAS IT?

25 A THE WHAT AGAIN?

26 Q IT WAS NOT THE FUNCTION OF THE COMMITTEE TO
27 ASSESS THE GENERAL VALIDITY OF FIREARMS IDENTIFICATIONS --

28 A NO.

1 Q -- AND TOOL --

2 A BUT THE COMMITTEE FELT IT HAD TO COMMENT. SO THE
3 OVERALL CHARGE OF THE COMMITTEE DID NOT INCLUDE ASSESSING
4 THE VALIDITY OF FIREARMS EXAMINATION AS A DISCIPLINE. BUT
5 THE COMMITTEE COMMENTED ON THE VALIDITY THE FIREARMS
6 EXAMINATION AS A DISCIPLINE BECAUSE OF COURSE IT IMPACTED
7 DIRECTLY THE CHARGE THAT THE COMMITTEE HAD, AS I MENTIONED
8 EARLIER.

9 Q BUT THE REAL PURPOSE OF THE COMMITTEE WAS TO SEE
10 IF A COMPUTER BASED SYSTEM COULD BE GENERATED OR CREATED FOR
11 PURPOSES OF BALLISTICS COMPARISONS, CORRECT?

12 A NO. THE COMPUTER SYSTEM EXISTS. IT'S CALLED
13 "NIBIN." THE QUESTION WAS WHETHER MUCH MORE COMPREHENSIVE
14 DATABASE THAN WHAT EXISTS TODAY COULD BE BUILT IN A
15 PRACTICAL AND RELIABLE MANNER SO THAT FIREARMS
16 IDENTIFICATIONS COULD BE MADE IN A UNIFORM WAY THROUGHOUT
17 THE COUNTRY USING THE SAME DATABASES.

18 Q WHAT IS THE THEORY OF THE AFTE IN MAKING AN
19 IDENTIFICATION?

20 A YOU MEAN THE AFTE THEORY OF IDENTIFICATION?

21 Q YES, MA'AM.

22 A SHALL I READ IT? I HAVE IT IN FRONT OF ME.

23 Q DO YOU KNOW IT?

24 A OH. WELL, YES.

25 Q WITHOUT LOOKING, PLEASE, TELL US WHAT IT IS.

26 A SURE. SO LET'S SEE. SO THE -- IT TALKS ABOUT
27 EXCEEDING -- LET'S SEE. IT'S A -- I'LL TELL YOU WHAT THEORY
28 SAYS. IT SAYS, "YOU'LL KNOW IT WHEN YOU SEE IT."

1 ESSENTIALLY, THAT'S WHAT IT SAYS. IT SAYS -- IT USES WORDS
2 SUCH AS, "EXCEEDS THE BEST AGREEMENT THAT YOU HAVE SEEN
3 BEFORE. OR IS CONSISTENT WITH AGREEMENT." I MEAN, IT'S A
4 COMPLETELY NONSCIENTIFIC STATEMENT THAT IS FULL OF
5 VAGUENESS. I HAVE IT COMPLETELY WRITTEN UP HERE.

6 DO YOU KNOW IT BY HEART?

7 Q MA'AM, YOU'RE BEING PROFFERED AS AN EXPERT
8 WITNESS IN THIS FIELD.

9 THE COURT: MA'AM, YOU'RE SUPPOSED TO BE THE EXPERT. I
10 NEED YOU TO BE ABLE TO EDUCATE US. NOT MR. GROBESON.

11 THE WITNESS: I'M NOT AN AFTE MEMBER. THEY WOULDN'T
12 TAKE ME. AND I'M NOT AN AFTE -- I'M NOT A FIREARMS
13 EXAMINER. YOU'RE ASKING ME TO -- IT'S A LONG PARAGRAPH. I
14 DON'T KNOW IT BY HEART.

15 BY MR. GROBESON:

16 Q SO THE BOTTOM LINE, YOU'RE NOT AN EXPERT IN THE
17 FIREARM MARKS METHODOLOGY USED BY AFTE, CORRECT?

18 A I KNOW WHAT IT CONSISTS OF, YES.

19 Q TELL US WHAT IT CONSISTS OF. THAT'S WHAT I'M
20 ASKING YOU.

21 A OH, OH, OKAY.

22 Q IF YOU'RE AN EXPERT IN THIS AREA, TELL ME WHAT IT
23 CONSISTS OF.

24 A OKAY. FINE.

25 Q WITHOUT READING IT.

26 A I AM NOT READING. IN FACT I'M NOT GOING TO TELL
27 YOU ANYTHING ABOUT THE AFTE THEORY OF IDENTIFICATION. SO,
28 THE THEORY TELLS FIREARMS EXAMINERS TO DECLARE THAT A MATCH

1 IS SIGNIFICANT OR AT LEAST TO A PRACTICAL SIGNIFICANCE IF
2 WHAT THEY ARE OBSERVING EXCEEDS THE BEST -- LET'S SEE. WHAT
3 WAS IT? THEY'RE SUPPOSED TO KNOW. SO WHAT WAS IT? WE WERE
4 JUST TALKING ABOUT IT. AND IT'S SO INSANE. SOMETHING IS
5 GOING TO BE A MATCH IF WHAT THEY ARE OBSERVING EXCEEDS -- IS
6 NO WORSE THAN WHAT THEY REMEMBER TO BE THE BEST POSSIBLE
7 NONMATCHING SCENARIO. AND I AM -- IF THIS IS SOUNDING
8 ABSURD IT'S BECAUSE THE THEORY IS ABSURD.

9 Q TELL ME, WHICH BRANCH OF THE SCIENCES OF FORENSIC
10 SCIENCES ARE NOT ABSURD IN YOUR ESTIMATION?

11 A WELL, I'M -- I'LL TELL YOU, DNA --

12 MR. MCKEE: I'M GOING TO OBJECT. IRRELEVANT. BEYOND
13 THE SCOPE.

14 THE COURT: OVERRULED.

15 BY MR. GROBESON:

16 Q DNA. ANY OTHERS?

17 A IT'S OVERRULED, I THOUGHT. YOU OVERRULED HIM.

18 WELL, ACCORDING TO THE ACADEMY OF SCIENCES, A
19 PATH FORWARD FOR THE FORENSIC SCIENCES --

20 Q I'M ASKING YOU FOR YOUR OPINION. YOU'RE THE
21 PROFFERED EXPERT.

22 A OKAY. SO THE SAME --

23 MR. MCKEE: BEYOND THE SCOPE OF VOIR DIRE.

24 THE COURT: OVERRULED.

25 THE WITNESS: I'M SUPPOSED TO ANSWER?

26 THE COURT: YES.

27 THE WITNESS: YES.

28 OKAY. SO THE ISSUES THAT WE'RE TALKING ABOUT, IN

1 TERMS OF TAKING THE LEAP FROM A MATCH TO A SINGLE SOURCE,
2 WHICH IS THE ISSUE THAT -- THE THING THAT'S AT ISSUE HERE.
3 THAT APPLIES TO ALMOST ANY TYPE OF EVIDENCE. IT DOES NOT
4 APPLY TO DNA EVIDENCE BECAUSE FOR DNA EVIDENCE WE KNOW THAT
5 THE PROBABILITY OF COINCIDENTAL MATCH IS NEGLIGIBLE. WE
6 KNOW THAT WHEN TWO SAMPLES MATCH, CHANCES ARE THEY WERE --
7 IN FACT, ALMOST CERTAINLY THEY WERE DEPOSITED BY THE SAME
8 PERSON.

9 THAT IS NOT TRUE IN THE CASE OF TOOL MARKS, IN
10 THE CASE OF FINGERPRINTS, IN THE CASE OF HAIR, AS IT HAS
11 BEEN DEMONSTRATED RECENTLY, IN THE CASE OF BULLET LEAD
12 ANALYSIS WAS DEMONSTRATED RECENTLY. AND I UNDERSTAND THAT
13 THIS IS TOUGH BECAUSE EVERYTHING IS UNDER QUESTION. BUT
14 THAT'S THE WAY IT IS.

15 THE COURT: SO JUST TO MAKE SURE I UNDERSTOOD YOUR LAST
16 ANSWER. YOUR OPINION IS THE SAME AS TO FIREARMS
17 EXAMINATIONS AND FINGERPRINTS; IS THAT CORRECT?

18 THE WITNESS: I AM SAYING THAT IN ALL OF THESE TYPES OF
19 EVIDENCE YOU HAVE TO UNDERSTAND WHEN IS IT THAT YOU CAN LEAP
20 FROM CONCLUDING THAT THERE'S A MATCH TO CONCLUDING THAT
21 THERE'S A SINGLE SOURCE THAT LEFT THOSE TWO TYPES OF
22 EVIDENCE.

23 THE COURT: BUT I AM SAYING -- YOU'RE SAYING THAT DNA
24 IS IN ONE CATEGORY?

25 THE WITNESS: YES.

26 THE COURT: FINGERPRINTS AND FIREARMS IS IN A SECOND
27 CATEGORY?

28 THE WITNESS: IN A SENSE, THEY'RE ALL IN THE SAME

1 CATEGORY. THE ONLY REASON WE'RE PUTTING THEM IN A DIFFERENT
2 CATEGORY IS THAT FOR DNA WE HAVE INFORMATION THAT WE DON'T
3 HAVE FOR ANY OTHER TYPE OF EVIDENCE. SO IN DNA WE HAVE
4 MATURE REFERENCE DATABASES. WE KNOW THAT HUMANS -- WE KNOW
5 BIOLOGY. HUMANS DON'T CHANGE FROM YEAR TO YEAR. YOU KNOW,
6 BIOLOGY IS THE SAME. AND SO WE KNOW, FROM BIOLOGY, THAT THE
7 FACT THAT TWO INDIVIDUALS ARE GOING TO HAVE DIFFERENT DNA.
8 WE KNOW THAT.

9 THE COURT: RIGHT.

10 THE WITNESS: FOR THE OTHERS WE DON'T KNOW THAT. WE
11 DON'T KNOW, FOR EXAMPLE, WHETHER TWO GUNS ARE GOING TO LEAVE
12 THE SAME MARKS. WE -- THERE'S A THEORY OF UNIQUENESS. BUT
13 THAT HASN'T BEEN PROVED. WE DON'T KNOW.

14 WE USED TO THINK THAT YOU COULD IDENTIFY A PERSON
15 BY LOOKING AT HAIR SAMPLES. WELL, NOW WE KNOW THAT'S NOT
16 TRUE UNLESS YOU'RE LOOKING AT THE DNA. AND SO THE ISSUE IS
17 THE SAME. IT'S THE ISSUE OF, DO YOU KNOW ANYTHING ABOUT THE
18 PROBABILITY THAT YOU WILL OBSERVE A MATCH COINCIDENTALLY?
19 NOT BECAUSE THERE IS THE SAME SOURCE, BUT BECAUSE MORE THAN
20 ONE SOURCE MAY HAVE LEFT THE SAME TYPE OF EVIDENCE.

21 THE COURT: AND THAT'S THE SAME FOR FINGERPRINTS AND
22 FIREARMS?

23 THE WITNESS: YES.

24 THE COURT: OKAY. I JUST WANT TO MAKE SURE I
25 UNDERSTOOD THE ANSWER.

26 THE WITNESS: YES. AND FOR EVERYTHING ELSE.

27 BY MR. GROBESON:

28 Q FOR EVERYTHING OTHER THAN DNA?

1 A FOR DNA IT USED TO BE THE SAME WAY. NOW WE HAVE
2 LEARNED ABOUT DNA, AND WE NO LONGER THINK THAT. MAYBE SOME
3 DAY WE WILL LEARN ENOUGH ABOUT FIRE MARKS TOOL MARKS THAT WE
4 MIGHT PUT TOOL MARKS IN THE SAME BASKET AS DNA. WE ARE NOT
5 THERE YET.

6 Q HOW MANY -- HOW LARGE A DATABASE WOULD HAVE TO BE
7 ESTABLISHED TO THE POINT WHERE YOU WOULD BE SATISFIED OF THE
8 UNIQUENESS OF --

9 A WELL, YOU KNOW, AT LEAST IT WOULD HAVE -- THAT'S
10 AN EXCELLENT QUESTION, AS A MATTER OF FACT.

11 Q THANK YOU. I TRY.

12 A IT WOULD HAVE TO BE -- I CANNOT TELL YOU EXACTLY
13 THE SIZE OF THE DATABASE. BUT THIS IS A STUDY THAT WOULD
14 HAVE TO BE PLANNED CAREFULLY. AND NOT ONLY WOULD YOU HAVE
15 TO HAVE A PRETTY LARGE RANDOMLY SELECTED -- NOT PURPOSELY
16 SELECTED, RANDOMLY SELECTED -- SAMPLE OF FIREARMS THAT YOU
17 WANTED TO TEST. YOU WOULD HAVE TO BE UPDATING THIS
18 REFERENCE DATABASE YEAR AFTER YEAR BECAUSE MANUFACTURING
19 CHANGES. THAT'S THE OTHER THING ABOUT DNA. PEOPLE DON'T
20 CHANGE. YOU KNOW, PHYSIOLOGY IS PHYSIOLOGY FROM YEAR TO
21 YEAR. BUT MANUFACTURING CHANGES. AND GUN BARRELS THESE
22 DAYS ARE NOT MANUFACTURED IN THE SAME WAY THEY WERE
23 MANUFACTURED MAYBE 10 YEARS AGO.

24 AND SO EVEN IF YOU CREATED A DATABASE TODAY TO
25 UNDERSTAND ISSUES OF UNIQUENESS AND REPRODUCIBILITY, WHICH
26 COULD BE DONE, YOU WOULD STILL NEED TO CONTINUOUSLY UPDATE
27 THAT STUDY. AND THAT'S TRUE FOR ANY TYPE OF EVIDENCE THAT'S
28 NOT BIOLOGICAL BECAUSE EVERYTHING -- MANUFACTURING CHANGES.

1 BIOLOGICAL SAMPLES DON'T CHANGE.

2 AND, SO, YOU KNOW, I CANNOT TELL YOU WHETHER IT
3 WOULD NEED 10,000 GUNS OR WHETHER YOU WOULD NEED 550 GUNS.
4 I HAVE NO IDEA. SO, YOU KNOW, THIS WOULD HAVE TO BE A
5 DESIGN STUDY. BUT IT COULD BE DONE. IT SHOULD BE DONE.

6 THE COURT: MR. GROBESON, THIS IS GETTING A LITTLE BIT
7 AWAY FROM VOIR DIRE AND MORE INTO CROSS-EXAMINATION.

8 MR. GROBESON: I APOLOGIZE, YOUR HONOR. I'LL TRY TO
9 BRING IT BACK.

10 THE WITNESS: BUT IT'S INTERESTING.

11 THE COURT: VERY. THANK YOU.

12 BY MR. GROBESON:

13 Q AS PART OF YOUR RESEARCH YOU'VE LOOKED AT
14 THEORIES OF FIREARM MARK COMPARISON METHODOLOGY?

15 A YEAH.

16 Q HOW MANY DIFFERENT THEORIES OF METHODOLOGY ARE
17 THERE?

18 A I KNOW TWO. THE ONE THAT JUST COUNTS LAND MARKS
19 AND THE ONE -- AND THEN THE CMS, WHICH IS ESSENTIALLY THE
20 ONE THAT LOOKS AT CONSECUTIVE RUNS OF MATCHING STRIAE.

21 Q AND WHICH ONE DOES THE AFTE USE?

22 A THE ONE THAT JUST COUNTS.

23 Q SO DO THEY HAVE A SPECIFIC NUMBER OF MARKS THAT
24 MUST BE PRESENT?

25 A NO. THAT'S ONE OF THE ISSUES. THEY DON'T A
26 SPECIFIC NUMBER OF MARKS THAT MUST BE PRESENT. SO, NOBODY
27 HAS SAT DOWN AND SAID, YOU KNOW, IN ORDER FOR THIS TO BE
28 DECLARED A MATCH YOU HAVE TO HAVE 17-AND-A-HALF STRIAE THAT

1 MATCH.

2 Q AND SOME ARE LIKE FINGERPRINTS DON'T REQUIRE A
3 SPECIFIC NUMBER OF MARKS?

4 MR. MCKEE: OBJECTION. BEYOND THE SCOPE.

5 THE COURT: OVERRULED.

6 THE WITNESS: I DON'T KNOW MUCH ABOUT FINGERPRINTS,
7 ACTUALLY. I DON'T KNOW HOW THEY DO IT. I HAVE NEVER WORKED
8 ON FINGERPRINTS. SO THE ONLY THING I CAN TELL YOU ABOUT
9 FINGERPRINTS IS THAT THE ISSUES OF IDENTIFICATION ARE THE
10 SAME. BUT I DON'T KNOW HOW YOU LOOK AT FINGERPRINTS.

11 BY MR. GROBESON:

12 Q ARE YOU FAMILIAR WITH THE MANNER IN WHICH
13 FIREARMS ARE MANUFACTURED?

14 A SOME, I MEAN --

15 Q ARE YOU GOING TO PROFESS ANY EXPERTISE IN THAT
16 AREA?

17 A NO.

18 Q HOW ABOUT AN EXAMINATION OF BULLETS OR CASINGS
19 FOR SUBCLASS MARKS?

20 A I CAN TELL YOU WHAT SUBCLASS MARKS ARE AND WHERE
21 THEY COME FROM AND HOW DIFFICULT THEY ARE TO DISTINGUISH
22 FROM INDIVIDUAL MARKS.

23 Q YOU'VE HAD TRAINING?

24 A IT'S NOT IMPOSSIBLE.

25 NO. BUT I'VE READ FROM THE EXPERTS.

26 Q SO YOUR KNOWLEDGE IN THIS AREA REALLY IS READING,
27 AND YOUR KNOWLEDGE OF FIREARM COMPARISONS IS READING WHAT
28 OTHER PEOPLE HAVE WRITTEN?

1 A OF THE FIREARMS, OF THE MECHANICS OF CARRYING OUT
2 FIREARMS COMPARISONS, YES. OF THE INTERPRETATION, NO.

3 Q THE INTERPRETATION IS YOU BRING STATISTICAL
4 KNOWLEDGE TO BEAR?

5 A SURE.

6 Q IS THAT CORRECT?

7 A AND THAT'S A CRITICAL TYPE OF KNOWLEDGE TO
8 INTERPRET THIS TYPE OF DATA.

9 MR. GROBESON: I HAVE NO FURTHER QUESTIONS IN THE AREA
10 OF THE VOIR DIRE OF THE WITNESS, YOUR HONOR.

11 THE COURT: OKAY.

12 MR. MCKEE, IF YOU'D LIKE TO CONTINUE.

13 MR. MCKEE: I HAVE NOTHING FURTHER WITH REGARD TO THE
14 FOUNDATION FOR HER EXPERTISE.

15 I RENEW MY TENDER THAT SHE'S AN EXPERT WITH
16 REGARD TO THE EMPIRICAL VALIDITY OF FIREARM MARKS
17 EXAMINATIONS AND ALSO WITH REGARD TO METHODOLOGY.

18 THE COURT: MR. GROBESON?

19 MR. GROBESON: YOUR HONOR, WITH ALL DUE RESPECT TO THE
20 WITNESS, I FEEL THAT SHE FAILS IN BOTH THOSE AREAS. SHE IS
21 AN EXPERT IN STATISTICS. NOTHING MORE, NOTHING LESS. SHE
22 CERTAINLY IS NOT AN EXPERT IN FIREARM COMPARISONS OR TOOL
23 MARK COMPARISONS.

24 THE COURT: MR. MCKEE, SHE CAN TESTIFY AS AN EXPERT IN
25 STATISTICS AND STATISTICAL ANALYSIS OF FIREARMS
26 EXAMINATIONS. BUT SHE IS NOT AN EXPERT IN FIREARMS. SHE
27 JUST ISN'T.

28 SHE'S A VERY WELL-SPOKEN, INTELLIGENT SCIENTIST.

1 DEFINITELY AN EXPERT IN STATISTICS. BUT SHE KNOWS LESS THAN
2 I DO IN THE AREA OF FIREARMS, AND I'M NOT A FIREARMS EXPERT.
3 AND SO I CANNOT DEEM HER A FIREARMS EXPERT. SO SHE CAN TALK
4 ABOUT STATISTICS. SHE SHE CANNOT TALK ABOUT THE EXAMINATION
5 OF FIREARMS.

6 MR. MCKEE: STATISTICS WITH REGARD TO --

7 THE COURT: WITH STUDIES THAT HAVE BEEN DONE TO
8 FIREARMS.

9 MR. MCKEE: OKAY. THANK YOU VERY MUCH, YOUR HONOR.

10
11 DIRECT EXAMINATION (CONTINUED)

12
13 BY MR. MCKEE:

14 Q NOW, DOCTOR --

15 MR. GROBESON: IF I MAY? IN THAT REGARD, I THINK THEN
16 THIS WITNESS IS NOT SUFFICIENT FOR THE REQUISITE SHOWING ON
17 A KELLY HEARING, AND WHY THERE'S A NEED FOR FURTHER
18 EXAMINATION.

19 SHE'S NOT QUALIFIED TO TENDER AN OPINION THAT
20 THERE'S BEEN A FUNDAMENTAL SHIFT BY THE EXPERTS IN THE
21 FIELD, WHICH IS FIREARMS COMPARISONS. SHE'S NOT A FIREARMS
22 EXPERT.

23 THE COURT: NO.

24 MR. MCKEE?

25 MR. MCKEE: THANK YOU.

26 YOUR HONOR, CERTAINLY SHE WOULD -- WHAT MY
27 UNDERSTANDING OF THE COURT'S RULING IS, THAT SHE IS ALLOWED
28 TO TESTIFY BASED ON HER TRAINING AND EXPERIENCE, AS A

1 SCIENTIST. WITH REGARD TO THE EMPIRICAL VALIDITY --

2 THE COURT: NO. SHE'S DONE STUDIES IN THE AREA OF
3 FIREARMS ANALYSIS AND HAS RUN STATISTICS ON THOSE ON THE
4 STUDIES SHE'S DONE. AND I'LL LET HER TESTIFY. OTHER THAN
5 THAT SHE'S CANNOT TESTIFY. SHE'S NOT AN EXPERT IN THIS
6 AREA. SHE'S AN EXPERT IN STATISTICS.

7 MR. MCKEE: YEAH.

8 THE WITNESS: CAN I TESTIFY AS TO THE ACADEMY OF
9 SCIENCES WORK?

10 THE COURT: NO. MA'AM, YOU'RE -- YOU'RE NOT AN EXPERT
11 IN THIS AREA.

12 YOU NEED A FIREARMS EXPERT TO STATE THAT THIS
13 ISN'T ACCEPTED WITHIN THE SCIENTIFIC COMMUNITY. AND I'VE
14 GOT TO BE HONEST WITH YOU. EVERYTHING I'VE HEARD SO FAR
15 DOESN'T CHANGE ANYTHING. THIS IS A WIDELY ACCEPTED AREA
16 WITHIN THE SCIENTIFIC COMMUNITY. THIS IS SOMETHING THAT'S
17 TESTIFIED TO EVERY SINGLE DAY. NOTHING IS CHANGED IN THE
18 UNITED STATES.

19 I'VE ASKED YOU FROM THE BEGINNING TO BRING ME
20 SOMETHING THAT STATES THAT FIREARMS ANALYSIS HAS EVEN BEEN
21 LIMITED IN ANY JURISDICTION IN CALIFORNIA, AND YOU'VE
22 PRESENTED NONE.

23 MR. MCKEE: YOUR HONOR, RESPECTFULLY, I WOULD ASK THE
24 COURT TO CONSIDER UNITED STATES V. PORTER, WHICH IS 1992
25 CASE, 618 ATLANTIC 2D, 629 AT PAGE 634, WHICH EXPLAINS THAT
26 OBVIOUSLY, FORENSIC SCIENTISTS WITHIN THE DISCIPLINE THAT
27 THEY BELONG TO, WILL ENDORSE THE DISCIPLINE. BUT THAT'S NOT
28 THE END OF THE ANALYSIS. YOU HAVE TO ALSO CONSIDER THE

1 OPINIONS OF A SECOND CATEGORY, THOSE WHOSE SCIENTIFIC
2 BACKGROUND AND TRAINING ARE SUFFICIENT TO ALLOW THEM TO
3 COMPREHEND AND UNDERSTAND THE PROCESS AND FORM A JUDGMENT
4 ABOUT IT.

5 SHE CERTAINLY QUALIFIES AS A MEMBER OF THE SECOND
6 CATEGORY, HAVING SERVED ON A COMMITTEE OF THE NATIONAL
7 ACADEMY OF SCIENCES CHARGED WITH ASSESSING FEASIBILITY OF A
8 NATIONAL BALLISTICS DATABASE, AND IN THE PROCESS MAKING VERY
9 CRITICAL FINDINGS REGARDING THE FACT THAT THERE IS
10 INSUFFICIENT EMPIRICAL DATA TO SUPPORT THE FUNDAMENTAL
11 ASSUMPTIONS UNDERLYING FIREARM MARKS EXAMINATION, NAMELY,
12 UNIQUENESS AND REPRODUCIBILITY.

13 THE COURT: I UNDERSTAND THAT. AND IN CALIFORNIA,
14 WHERE PEOPLE HAVE BEEN PUT TO DEATH BASED THIS TYPE OF
15 EVIDENCE, SINCE THAT STUDY HAS BEEN DONE, NOTHING HAS
16 CHANGED.

17 MR. MCKEE: WELL, RESPECTFULLY, IT HAS. WHAT HAS
18 CHANGED IS AS A RESULT OF DR. CARRIQUIRY'S WORK. SHE HAS
19 BROUGHT TO LIGHT, ALONG WITH OTHER DISTINGUISHED MEMBERS OF
20 THE SCIENTIFIC COMMUNITY WHO SERVE ON THE SAME COMMITTEE
21 THAT SHE SERVED ON, THAT ALTHOUGH THIS HASN'T BEEN
22 CHALLENGED BEFORE IT SHOULD HAVE BEEN. AND THIS IS NO
23 DIFFERENT FROM COMPARATIVE BULLET LEAD EVIDENCE.

24 THE COURT: IT IS COMPLETELY DIFFERENT FROM THAT.

25 THE WITNESS: NO.

26 MR. MCKEE: AND --

27 THE COURT: MA'AM, I TELL YOU RIGHT NOW, IF YOU
28 INTERRUPT ME ONE MORE TIME -- YOU ARE NOT TO SPEAK TO ME

1 DIRECTLY.

2 THE WITNESS: SORRY.

3 MR. MCKEE: BY ANALOGY IT IS THE SAME BECAUSE BULLET
4 LEAD COMPARISON EVIDENCE HAS BEEN CONSISTENTLY USED SINCE
5 THE 1960'S TO SECURE CONVICTIONS, TO SECURE ANY TYPE OF
6 CONVICTION. THE COURT MENTIONED PEOPLE HAVE DIED. THE SAME
7 TYPE OF EVIDENCE WAS USED TO SECURE CONVICTIONS IN CRIMINAL
8 COURTS SINCE THE 1960'S NO LONGER IS AS A RESULT OF
9 DR. CARRIQUIRY'S WORK.

10 THE COURT: OKAY. THIS IS WHAT WE'RE GOING TO DO.
11 YOU'RE GOING TO CONTINUE DIRECT EXAMINATION AND I'LL MAKE MY
12 DECISION. IT WILL BE SUBJECT TO A MOTION TO STRIKE.

13 MR. MCKEE: THANK YOU.

14 THE COURT: I WANT TO HEAR MORE WHAT SHE HAS TO SAY.

15 MR. MCKEE: THANK YOU.

16 Q DOCTOR, WHICH MATERIALS DID YOU REVIEW IN
17 PREPARATION FOR YOUR TESTIMONY TODAY?

18 A CAN I GO TO MY PAPERS?

19 Q CERTAINLY, IF IT WOULD REFRESH YOUR RECOLLECTION.

20 A A LOT OF STUFF. HOLD ON.

21 WELL, I REVIEWED THE -- A COUPLE OF STATEMENTS
22 PUT FORTH BY THE PRESIDENTS OF THE AMERICAN ACADEMY OF
23 FORENSIC SCIENCES.

24 I REVIEWED, AS I SAID, SEVERAL ARTICLES THAT TALK
25 ABOUT -- OH, SOME PITFALLS THIS IS -- WERE WRITTEN BY
26 FIREARMS EXAMINERS. ONE BY A PERSON CALLED GENE RIVERA THAT
27 TALKS ABOUT HOW SMITH AND WESSON FIREARMS THAT WERE NOT
28 MANUFACTURED CONSECUTIVELY HAD LEFT IDENTICAL MARKS ON SOME

1 AMMUNITION.

2 THERE'S ANOTHER PAPER BY ANOTHER FIREARMS
3 EXAMINER TALKING ABOUT FALSE BREECH FACE I.D.'S.

4 THERE'S A COUPLE OF PAPERS ON BREECH FACE I.D.'S.

5 THERE'S THE BONFANTI AND THE DEKINDER ARTICLE ON
6 THE INFORMATION OF THE MANUFACTURING PROCESSES AND HOW
7 THE -- HOW THAT HAS AFFECTED THE RELIABILITY OF FIREARMS
8 IDENTIFICATIONS.

9 WHAT ELSE? OH, THERE'S A CASE, U.S. V. MOUZONE,
10 IN WHICH THE JUDGE'S OPINION WAS KIND OF INTERESTING.

11 AND, LET'S SEE. WELL, AND THERE'S A LOT OF VERY
12 INTERESTING CITATIONS IN THIS COURT. MANY THINGS.

13 Q OKAY. ARE THOSE THE MOST RELEVANT MATERIALS THAT
14 YOU REVIEWED?

15 A YES. AND, OF COURSE, YOU KNOW, THE RELEVANT
16 ACADEMY REPORTS.

17 I HAVE TO GO BACK TO THIS WRITING BY HARRY
18 EDWARDS.

19 Q YES.

20 A BECAUSE THIS IS -- THIS IS -- ADDRESSES MANY OF
21 THE THINGS THAT HIS HONOR WAS MENTIONING IN TERMS OF THE
22 CHANGING LANDSCAPE IN THE --

23 THE COURT: HOLD ON. WHAT I WANT TO KNOW, MR. MCKEE,
24 AND I WANT TO YOU GET TO THE POINT. WHAT STUDIES SHE'S DONE
25 IN THE AREAS OF FIREARMS ANALYSIS. LET'S FOCUS ON THAT.

26 IF SHE'S DONE ANY STUDIES IN FIREARMS ANALYSIS OR
27 STATISTICS RELATING TO FIREARMS ANALYSIS THAT SHE'S
28 PERSONALLY DONE HERSELF.

1 MR. MCKEE: CAN I ASK TWO FOLLOW-UP QUESTIONS AND
2 PROGRESS IN THAT AREA?

3 THE COURT: OKAY. I'M TELLING YOU RIGHT NOW, WE'RE
4 GOING TO BE DONE AT 3:00 O'CLOCK. AND IF YOU'RE NOT DONE
5 SHE'S COMING BACK ON MONDAY.

6 BY MR. MCKEE:

7 Q IN REVIEWING THOSE MATERIALS DID YOU DEVELOP ANY
8 OPINIONS REGARDING THE EMPIRICAL VALIDITY OF THE FUNDAMENTAL
9 ASSUMPTION OF THE UNIQUENESS AND REPRODUCIBILITY?

10 A DID I AGAIN WHAT? SORRY. I WAS DISTRACTED.

11 Q NO. THAT'S FINE.

12 IN REVIEWING THOSE MATERIALS DID YOU DEVELOP ANY
13 OPINIONS REGARDING THE EMPIRICAL VALIDITY OF THE FUNDAMENTAL
14 ASSUMPTIONS OF UNIQUENESS AND REPRODUCIBILITY?

15 A YES. I MADE THE OPINION THAT I HAVE -- THAT I
16 DEVELOPED AS DURING THE 2-AND-A-HALF YEARS OF WORK IN THE
17 NATIONAL ACADEMY OF SCIENCES ON THIS TOPIC, WAS THE SAME
18 THAT MY COMMITTEE MEMBERS AND MANY OTHER OF MY COLLEAGUES
19 HAVE DEVELOPED, WHICH IS THERE MAY BE SOME TRUTH TO THIS,
20 BUT IT HASN'T BEEN PROVEN. SO THIS ASSUMPTION OF UNIQUENESS
21 AND REPRODUCIBILITY, NONE OF THE TWO HAVE BEEN VALIDATED
22 PROPERLY.

23 Q IN OTHER WORDS, THERE'S A LACK OF EMPIRICAL
24 SUPPORT FOR THESE IDENTITY OPINIONS?

25 A THERE'S A COMPLETE LACK OF EMPIRICAL SUPPORT.
26 THAT'S NOT MY OPINION. IT'S THE OPINION OF THE NATIONAL
27 ACADEMY OF SCIENCES AND OF THE AMERICAN ACADEMY OF FORENSIC
28 SCIENCES.

1 Q AND AS A RESULT OF YOUR OWN STATISTICAL WORK AND
2 STUDIES PERFORMED BY BOTH YOU AND OTHER SCIENTISTS WITHIN
3 THE ACADEMY OF SCIENCE?

4 A UH-HUH.

5 Q NOW, EARLIER YOU DISCUSSED THE TREATISE THAT YOU
6 WERE INVOLVED IN, BALLISTIC IMAGING AS A RESULT YOUR WORK IN
7 THE COMMITTEE OF THE NATIONAL ACADEMY OF SCIENCES?

8 A YEAH.

9 Q HAVE YOU ALSO READ AND CONSIDERED A REPORT ISSUED
10 IN 2009 BY THE NATIONAL ACADEMY OF SCIENCES ENTITLED
11 "STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES, A PART
12 FORTH"?

13 A YES.

14 Q NOW, DID THE COMMITTEE CHARGED WITH PREPARING
15 THIS REPORT RENDER ANY CONCLUSIONS REGARDING THE SCIENTIFIC
16 KNOWLEDGE BASE FOR TOOL MARKS AND FIREARMS ANALYSIS?

17 A THEY RENDERED THE EXACT SAME CONCLUSION THAT --
18 IN FACT THAT REPORT WAS EVEN MORE BLANKETING. SO THAT
19 REPORT SAID THAT FIREARMS, THE ASSUMPTION OF UNIQUENESS AND
20 REPRODUCIBILITY HAD NOT BEEN PROVED AND DID NOT STAND ON A
21 SOLID SCIENTIFIC FOUNDATION. THEY WENT FURTHER, AND THIS
22 WAS THE COMMITTEE THAT SAID THAT ANY TYPE OF EVIDENCE, WITH
23 THE EXCEPTION OF NUCLEAR DNA, IS SUBJECT TO THE SAME
24 QUESTIONS AT THIS MOMENT.

25 Q NOW, DID THE NRC COMMITTEE THAT YOU'RE A MEMBER
26 OF, POSIT A REASON FOR THESE CONCLUSIONS?

27 A THE REASON -- WELL, THE REASON IS THAT THERE'S A
28 LACK -- THERE'S A COMPLETE DEARTH OF SCIENTIFIC STUDIES.

1 THERE'S A SMATTERING OF SMALL STUDIES THAT HAVE BEEN CARRIED
2 OUT BY PRACTITIONERS THEMSELVES. NOTHING THAT HAS BEEN
3 CARRIED OUT, YOU KNOW, BY THE BROADER SCIENTIFIC COMMUNITY.
4 ALL THAT HAS BEEN PUBLISHED IN THE BROADER SCIENTIFIC
5 LITERATURE.

6 Q SO THE NRC COMMITTEE CHARGED WITH PREPARING THIS
7 SECOND REPORT ABOUT FORENSIC SCIENCE, ESSENTIALLY VALIDATED
8 THE FINDINGS THAT YOU MADE AS PART OF THE COMMITTEE THAT
9 RESULTED IN BALLISTIC IMAGING?

10 A YES.

11 Q NOW, HAVE STUDIES BEEN DONE BY FIREARM MARKS
12 EXAMINERS CHALLENGING THE VALIDITY OF IDENTITY OPINIONS?

13 A CHALLENGING THE VALIDITY OF -- YES. YOU MEAN
14 CHALLENGING THEMSELVES?

15 Q CHALLENGING THEMSELVES.

16 A WELL, THE -- THE STUDY THAT WAS PUBLISHED BY
17 MILLER, FOR EXAMPLE, IN DEFENSE OF CMS IS CHALLENGING
18 FIREARMS EXAMINERS THAT DON'T USE CMS. AND, IN FACT, IS
19 CLAIMING THAT COUNTING STRIAE OR EVEN LOOKING AT PERCENTS OF
20 MATCHING STRIAE CAN LEAD TO SERIOUS MISIDENTIFICATION. SO
21 THAT'S ONE OF THEM.

22 THE STUDY BY DEKINDER AND --

23 Q BONFANTI?

24 A YEAH. BONFANTI, IN FACT IS ANOTHER ONE. SO,
25 YES, THERE HAS BEEN A LOT OF, LET'S SAY, INHOUSE CHALLENGES.

26 Q DID BONFANTI AND DEKINDER SPECIFICALLY -- WERE
27 THEY SPECIFICALLY CONCERNED WITH THE CHANGES IN
28 MANUFACTURING PROCESSES AND HOW THOSE CHANGES AFFECT THE

1 ABILITY TO DETERMINE A MATCH BY CATCHING -- BY COUNTING
2 STRIAE?

3 A WELL, YEAH. AND, YOU KNOW, IT'S -- WHAT I WAS
4 TALKING ABOUT EARLIER, THAT MANUFACTURING AFFECTS THIS TYPE
5 OF EVIDENCE AND HOW YOU CAN INTERPRET WHAT YOU SEE. AND
6 WHAT THEY WERE TALKING IN THE PAPER WAS THAT, YOU KNOW,
7 MANUFACTURERS ARE NOT -- MANUFACTURERS ARE CONCERNED WITH
8 PRODUCING A PRODUCT THAT IS UNIFORMLY OF THE SAME QUALITY.
9 SO THEY WANT TO PRODUCE THINGS THAT LOOK ONE EXACTLY THE
10 SAME AS THE OTHER. AND SO THE WAY FIREARMS -- THE WAY
11 MANUFACTURING PROCESSES HAVE EVOLVED IS THAT MANY FIREARMS
12 THAT ARE MANUFACTURED ARE VERY SIMILAR TO EACH OTHER. THE
13 MATERIALS ARE BETTER. THE MACHINING IS BETTER. THE TOOLS
14 ARE MORE PRECISE. AND SO THAT LEAVES LESS ROOM FOR
15 DIFFERENCES BETWEEN FIREARMS AND THE TYPES OF MARKS THEY
16 LEAVE ON AMMUNITIONS.

17 Q AND IT MAKES IT HARDER TO DISTINGUISH SUBCLASS
18 CHARACTERISTICS FROM INDIVIDUAL CHARACTERISTICS?

19 A YES.

20 Q CAN YOU BRIEFLY EXPLAIN THE SIGNIFICANCE?

21 MR. GROBESON: OBJECTION TO THE LAST QUESTION. IT
22 LACKS FOUNDATION.

23 THE COURT: OVERRULED.

24 BY MR. MCKEE:

25 Q CAN YOU BRIEFLY EXPLAIN TO US WHAT CLASS
26 CHARACTERISTICS, SUBCLASS CHARACTERISTICS, AND INDIVIDUAL
27 CHARACTERISTICS ARE AS THEY PERTAIN TO THE FIELD OF FIREARMS
28 MARKS EXAMINATIONS?

1 A SURE.

2 MR. GROBESON: OBJECTION. FOUNDATION.

3 THE COURT: SUSTAINED.

4 BY MR. MCKEE:

5 Q BASED ON YOUR TRAINING AND EXPERIENCE AND REVIEW
6 OF THE MATERIALS, HAVE YOU DISCERNED THE DIFFERENCES BETWEEN
7 CLASS CHARACTERISTICS, SUBCLASS CHARACTERISTICS, AND
8 INDIVIDUAL CHARACTERISTICS WITHIN THE FIELD OF FIREARM MARK
9 EXAMINATIONS?

10 THE COURT: SHE'S NOT AN EXPERT IN THIS AREA. I'M NOT
11 GOING TO ALLOW HER TO TESTIFY TO THIS.

12 BY MR. MCKEE:

13 Q ARE YOU AWARE OF THIS CONCERN VOICED BY BONFANTI
14 AND DEKINDER REGARDING THE ASSUMPTION OF UNIQUENESS AND
15 REPRODUCIBILITY WITHIN THE CONTEXT OF THESE CHANGES IN THE
16 MANUFACTURING PROCESS BEING EXPRESSED IN FEDERAL COURT?

17 A YES.

18 MR. GROBESON: OBJECTION. COMPOUND AND LEADING.

19 THE COURT: OVERRULED.

20 THE WITNESS: OKAY. YES. SO --

21 MR. GROBESON: OBJECTION. NO QUESTION PENDING.

22 THE COURT: NO. HE ASKED THE QUESTION.

23 MR. GROBESON: IF SHE WAS FAMILIAR. SHE ANSWERED
24 "YES."

25 THE COURT: OH, I'M SORRY.

26 THE WITNESS: WHAT?

27 BY MR. MCKEE:

28 Q CAN YOU TELL US ABOUT THIS?

1 A YES.

2 MR. GROBESON: OBJECTION. CALLS FOR A NARRATIVE.

3 THE COURT: SUSTAINED.

4 BY MR. MCKEE:

5 Q CAN YOU DESCRIBE SPECIFICALLY WHAT IT IS THAT THE
6 FEDERAL COURT WAS CONCERNED WITH IN TERMS OF THESE
7 ASSUMPTIONS OF UNIQUENESS AND REPRODUCIBILITY IN LIGHT OF
8 THESE CHANGES IN THE MANUFACTURING PROCESS?

9 A YES.

10 MR. GROBESON: OBJECTION. RELEVANCE AND FOUNDATION.

11 THE COURT: SUSTAINED.

12 THE WITNESS: ALL RIGHT. I GUESS NOT.

13 THE COURT: MA'AM, IS THIS YOUR FIRST TIME TESTIFYING
14 IN COURT?

15 THE WITNESS: NO.

16 THE COURT: YOU KNOW HOW THIS WORKS, RIGHT? YOU'RE
17 COMMENTS ARE NOT APPRECIATED AT ALL.

18 THE WITNESS: OKAY. OKAY. OKAY. OKAY.

19 BY MR. MCKEE:

20 Q NOW, DOCTOR, DOES THE ASSOCIATION OF FIREARM TOOL
21 MARKS -- STRIKE THAT.

22 FROM A SCIENTIFIC PERSPECTIVE, ARE YOU AWARE OF
23 THE SHORTCOMINGS OF THE METHODOLOGY THAT'S EMPLOYED BY THE
24 AFTE?

25 A FROM A SCIENTIFIC PERSPECTIVE, YES.

26 Q AND CAN YOU PLEASE TELL US WHAT THAT IS?

27 A YES. THERE IS A LACK OF A WELL DEFINED PROTOCOL,
28 IN FACT, MR. PROSECUTOR MENTIONED THE FACT THAT WE DON'T

1 EVEN KNOW HOW MANY STRIAE MUST MATCH BEFORE WE DECLARE THAT
2 THERE'S A MATCH. THERE IS -- THERE IS A VERY STRONG
3 SUBJECTIVE COMPONENT INVOLVED IN THIS IDENTIFICATIONS. SO
4 TWO FIREARMS EXAMINERS LOOKING AT EXACTLY THE SAME SAMPLES
5 MAY REACH COMPLETELY DIFFERENT CONCLUSIONS. THERE IS --
6 LET'S SEE. I HAVE WRITTEN ALL THESE THINGS DOWN FOR MYSELF
7 BECAUSE I KNEW I WAS GOING TO FORGET THEM. MAY I LOOK FOR
8 THAT?

9 MR. MCKEE: IF IT WOULD REFRESH YOUR RECOLLECTION, WITH
10 THE COURT'S PERMISSION?

11 THE COURT: SURE.

12 THE WITNESS: HOLD ON A MINUTE. HERE THEY ARE.

13 SO I HAD WRITTEN ALL THESE THINGS DOWN BECAUSE I
14 THOUGHT THIS WAS GOING TO BE A QUESTION.

15 BY MR. MCKEE:

16 Q DOCTOR, JUST READ IT TO YOURSELF. AND LET US
17 KNOW WHEN YOUR RECOLLECTION IS REFRESHED.

18 A SO THERE'S SUBJECTIVITY. THERE'S A LACK OF THE
19 ERROR RATE ESTIMATE. SO PEOPLE TEND TO MAKE STATEMENTS THAT
20 SAY THESE TWO FIREARMS -- THESE TWO SAMPLES MATCH, PERIOD.
21 WITHOUT ANY SENSE OF WHETHER THERE'S A PROBABILITY THAT THEY
22 MIGHT NOT. THERE'S -- IT'S VERY DIFFICULT OR IMPOSSIBLE AS
23 FIREARMS WILL TELL YOU -- FIREARMS EXPERTS WILL TELL YOU TO
24 DISTINGUISH BETWEEN SUBCLASS CHARACTERS --

25 THE COURT: MA'AM, SLOW DOWN, PLEASE. PLEASE SLOW
26 DOWN. SHE CAN'T TAKE IT THAT FAST.

27 THE WITNESS: OKAY. I'M SORRY.

28 AND INDIVIDUAL CHARACTERISTICS. THERE'S NO

1 RIGOROUS PROTOCOLS THAT HAVE BEEN ESTABLISHED. THERE'S VERY
2 MANY LIKE MILLER ESTABLISHED THAT THERE'S A WHOLE LOT --

3 MR. GROBESON: EXCUSE ME. I AM GOING IMPOSE AN
4 OBJECTION. SORRY TO INTERRUPT THE WITNESS. IT APPEARS THAT
5 SHE HAS A DOCUMENT SPECIFICALLY THAT WAS PREPARED HER
6 TESTIMONY TODAY.

7 THE WITNESS: NO. NO. THIS IS MY OWN NOTES.

8 MR. GROBESON: WELL, THEY'RE NOTES OF THE EXPERT
9 WITNESS, AND I DON'T BELIEVE I GOT DISCOVERY OF IT.

10 MR. MCKEE: I WAS UNAWARE OF ANY NOTES BEING GENERATED.
11 I DON'T HAVE ANY NOTES.

12 THE WITNESS: I HAVE PAPERS AND NOTES AND ALL KINDS OF
13 THINGS.

14 THE COURT: LET'S GET A PHOTOCOPY OF EVERYTHING AND
15 TURN IT OVER TO THE PEOPLE.

16 MR. GROBESON: THANK YOU.

17 THE WITNESS: ALL RIGHT.

18 THERE'S NO QUALITATIVE GUIDELINES.

19 MR. GROBESON: EXCUSE ME. I'D LIKE TO HAVE THAT NOW.
20 I WAS ENTITLED TO IT BEFORE 30 DAYS AGO. I'D LIKE A CHANCE
21 TO AT LEAST LOOK AT IT SO I CAN SEE WHERE THE WITNESS IS
22 GOING.

23 THE COURT: MR. MCKEE, YOU DIDN'T ASK YOUR WITNESS IF
24 THEY HAD PREPARED ANY NOTES PRIOR TO TESTIMONY?

25 MR. MCKEE: MY UNDERSTANDING WAS SHE HADN'T PREPARED A
26 REPORT OR THAT SHE HADN'T PREPARED ANY NOTES.

27 THE COURT: DID YOU ASK?

28 MR. MCKEE: SPECIFICALLY TODAY IF SHE HAD PREPARED ANY

1 NOTES?

2 THE COURT: MR. MCKEE, PLEASE DON'T ACT LIKE THIS IS
3 YOUR FIRST DAY IN COURT. DO YOU KNOW -- I'M BEYOND
4 FRUSTRATED TODAY. HONESTLY. BEYOND.

5 ALL RIGHT.

6 MR. MCKEE: YOUR HONOR, MY UNDERSTANDING WAS THAT SHE
7 HASN'T PREPARED ANY.

8 THE COURT: STOP. STOP. LET'S JUST GET THIS
9 INFORMATION OVER TO THE PEOPLE, WHICH THEY SHOULD HAVE HAD
10 AT LEAST PRIOR TO TODAY.

11 THE WITNESS: THIS IS ALL PUBLISHED STUFF EXCEPT FOR
12 THE ONES THAT ARE NOTES. I'M GIVING YOU EVERYTHING.

13 MR. MCKEE: YOUR HONOR, MAY I --

14 THE COURT: YOU'RE LOOKING FOR THE NOTES OR THE
15 DOCUMENTS ALSO?

16 MR. GROBESON: I'M LOOKING FOR THE NOTES. IT APPEARS
17 FROM WHAT THE WITNESS SAID THAT SHE HAD SPECIFIC NOTES SHE
18 WAS REFERRING TO BECAUSE SHE KNEW THAT SHE WAS GOING TO BE
19 ASKED IN THIS AREA.

20 MR. MCKEE: YOUR HONOR, I WOULD ALSO --

21 MR. GROBESON: FOR THE RECORD, THE WITNESS IS HOLDING
22 UP A NOTEPAD WITH A PAGE WITH WRITING ON IT.

23 MR. MCKEE: YOUR HONOR, I WOULD ALSO INTERJECT THAT
24 SHE'S NOT TESTIFYING -- THIS ISN'T TRIAL TESTIMONY IN FRONT
25 OF A JURY.

26 THE COURT: WHAT DOES THAT HAVE TO DO WITH ANYTHING?
27 SHE'S A WITNESS THAT YOU'VE CALLED TO TESTIFY IN COURT.
28 THEY HAVE A RIGHT TO DISCOVERY. BECAUSE IT'S NOT IN FRONT

1 OF THE JURY THEY DON'T HAVE A RIGHT TO DISCOVERY? IS THAT
2 WHAT YOU'RE TRYING TO PROFFER NOW?

3 YOU KNOW THEY DO. THEY HAVE A RIGHT TO THIS
4 DISCOVERY. THEY HAVE THE RIGHT TO THE DISCOVERY OF YOUR
5 EXPERT WITNESSES. HE'S ASKED NUMEROUS TIMES ON THE RECORD,
6 "ARE THERE ANYTHING PREPARED BY THE EXPERT?"

7 AND YOU SAID, "NO. THERE'S NOTHING." YOU SAID,
8 "SHE'S NOT GOING TO TESTIFY." BUT WE ALREADY WENT THROUGH
9 ALL THAT.

10 AND YOU SAID THAT WHATEVER YOU'VE GIVEN HER --
11 WHAT DID HE HAND OVER TO YOU? THE CV?

12 MR.. GROBESON: HE GAVE ME A CV, AS WELL AS A -- YOUR
13 HONOR, HE GAVE ME A WRITTEN STATEMENT SUMMARIZING THE
14 ANTICIPATED TESTIMONY.

15 MR. MCKEE: WHICH WAS INCORPORATED IN THE MOTION, WHICH
16 IS THE SUBSTANCE OF HER TESTIMONY TODAY.

17 THE WITNESS: YOUR HONOR, MAY I SAY SOMETHING?

18 MR. MCKEE: NOT --

19 THE COURT: SO WHATEVER NOTES YOU'VE PREPARED FOR
20 TODAY'S TESTIMONY.

21 THE WITNESS: MAY A SAY SOMETHING? I WROTE THESE THIS
22 MORNING. I WAS HERE AT 7:30 IN THE MORNING WAITING TO BE
23 CALLED IN. AND WHILE I WAS WAITING I WAS READING ALL THIS
24 STUFF. AND BECAUSE THERE ARE SO MANY OF THESE --

25 THE COURT: NO, I UNDERSTAND THAT. THERE WAS ALSO
26 ANOTHER PAGE OF WHAT LOOKED LIKE NOTES, THE TYPEWRITTEN
27 NOTES, THAT WHEN YOU SAID, "I PREPARED THIS BECAUSE I KNEW I
28 WAS GOING TO BE ASKED THESE QUESTIONS TODAY," WHICH SHOULD

1 BE TURNED OVER TO THE PEOPLE.

2 HOW MUCH LONGER DO YOU HAVE?

3 MR. MCKEE: NOT MUCH. I'M ALMOST DONE.

4 THE COURT: I WANT YOU TO FINISH AND THEN WE'LL WORRY
5 ABOUT THE REST.

6 MR. MCKEE: THANK YOU.

7 MAY I HAVE THE LAST QUESTION READ BACK?

8 THE COURT: PLEASE.

9

10 (AT THIS TIME THE RECORD WAS READ.)

11

12 MR. MCKEE: THANK YOU.

13 Q DOCTOR, FROM A SCIENTIFIC PERSPECTIVE, ARE YOU
14 AWARE OF THE SHORTCOMINGS OF THE METHODOLOGY THAT'S EMPLOYED
15 BY THE AFTE? I BELIEVE YOU HAD BEGUN ANSWERING THAT
16 QUESTION. COULD YOU START FROM THE BEGINNING?

17 A YES. I'LL JUST KEEP IT SHORT.

18 THERE'S SOME -- THERE'S SOME CRITICISMS THAT HAVE
19 BEEN LEVELED AND WITH WHICH I AGREE FROM A STATISTICAL POINT
20 OF VIEW. ONE IS THAT THERE IS NO WELL DEFINED PROTOCOL TO
21 CARRY OUT THESE EXAMINATIONS AND IN PARTICULAR TO DECLARE A
22 MATCH. SO ONE PARTICULAR FIREARMS EXAMINERS LOOKING AT A
23 SAMPLE MAY SAY THAT SIX STRIAE MATCHING IS A MATCH. AND
24 SOMEBODY ELSE MAY SAY THAT YOU REQUIRE EIGHT. AND IT'S NOT
25 CLEAR. IT'S NOT -- THIS IS NOT SOMETHING THAT HAS BEEN
26 ESTABLISHED IN A SCIENTIFIC MANNER. THE OTHER CONCERN IS
27 THAT -- AND THIS WAS A CONCERN THAT WAS EXPRESSED THE BY
28 MILLER, WHO IS HIMSELF A FIREARMS EXAMINER, IS THAT THE

1 NUMBER OF MATCHING STRIA -- IN FACT, THE PERCENT OF MATCHING
2 MARKS BETWEEN KNOWN MATCHES AND KNOWN NONMATCHES IS
3 SURPRISINGLY OVERLAPPING. AND SO YOU WILL FIND, FOR
4 EXAMPLE, IN .9 MILLIMETER AMMUNITION, THAT THE PERCENTAGE OF
5 LAND MARKS AMONG THE ONES THAT MILLER TESTED, AMONG KNOWN
6 NONMATCHING SPECIMENS WAS 5 PERCENT; AMONG MATCHING
7 SPECIMENS WAS 7 PERCENT, WHICH -- WHICH IMPLIES A HUGE
8 DEGREE OF OVERLAP.

9 SO EVEN IF WE KNEW THAT, LET'S SAY, 10 PERCENT
10 MATCHING STRIAE DECLARES A MATCH, WE STILL WOULDN'T KNOW
11 WHETHER THAT MEANS THAT THEY CAME FROM THE SAME SOURCE OR
12 NOT BECAUSE THERE'S A LOT OF KNOWN NONMATCHES THAT WOULD
13 ALSO HAVE 10 PERCENT MATCHING STRIAE.

14 Q WHICH IS ESSENTIALLY THE CRUX OF COINCIDENTAL
15 MATCH PROBABILITY?

16 A THAT'S EXACTLY RIGHT.

17 Q SO NOT ONLY DO WE NOT KNOW THE COINCIDENTAL MATCH
18 PROBABILITY, BUT STUDIES SUCH AS MR. MILLER'S SUGGEST THAT
19 THE COINCIDENTAL MATCH PROBABILITY IS NONNEGLECTIBLE?

20 A YES. AND THEN THERE'S ANOTHER STUDY BY GENE
21 RIVERA. MR. RIVERA IS ALSO A FIREARMS EXAMINER, THIS IS AN
22 EVEN MORE -- THAT'S A PRETTY RECENT ONE. IT'S A 2007 STUDY.
23 AND WHAT HE FOUND WAS THAT TWO SMITH AND WESSON GUNS, THAT
24 WERE NOT MANUFACTURED CONSECUTIVELY, SO THEY WERE
25 MANUFACTURED -- MAYBE THERE WERE HUNDREDS OF GUNS BETWEEN
26 ONE AND THE OTHER IN THE MANUFACTURING PROCESS, LEFT
27 INDISTINGUISHABLE MARKS, AS WELL.

28 AND SO I'M TRYING TO FIND THAT -- THAT PAPER

1 HERE.

2 Q AND SO THAT'S THE PROBLEM IN THIS DISTINGUISHING
3 SUBCLASS CHARACTERISTICS FROM INDIVIDUAL CHARACTERISTICS?

4 A UH-HUH.

5 Q THE SUBCLASS CHARACTERISTICS ARE THOSE THAT ARE
6 LEFT BY THE MANUFACTURING PROCESS OR THROUGH TIME, THROUGH
7 EROSION?

8 A AND INDIVIDUAL --

9 MR. GROBESON: OBJECTION. FOUNDATION.

10 THE WITNESS: FINE.

11 THE COURT: OVERRULED.

12 BY MR. MCKEE:

13 Q AND THE INDIVIDUAL CHARACTERISTICS, ON THE OTHER
14 HAND, ARE ALLEGED TO BE CHARACTERISTICS THAT ARE UNIQUE TO A
15 PARTICULAR FIREARM?

16 A THAT'S RIGHT.

17 Q AND SO THERE IS IN LITERATURE CONCERN IN THE
18 GROWING LACK OF AN ABILITY TO DISTINGUISH BETWEEN THESE
19 SUBCLASS CHARACTERISTICS AND THE INDIVIDUAL CHARACTERISTICS?

20 A THAT'S CORRECT. AND, YOU KNOW, I READ FROM THE
21 RIVERA PAPER. IT SAYS, "WHEN THE KNOWN NONMATCH TESTS FROM
22 THE TWO PISTOLS WERE COMPARED, THERE WAS A STARTLING
23 SIMILARITY UPON THE BREECH FACE MARKS."

24 THIS IS FROM THE AFTE JOURNAL, 2007.

25 THERE ARE SEVERAL SUCH PUBLICATIONS. AND MORE
26 HAVE -- THERE'S BEEN MORE PUBLISHED RECENTLY.

27 Q NOW, WITH REGARD TO THE METHODOLOGY USED BY THE
28 AFTE, YOU DESCRIBE HOW THERE ARE NO OBJECTIVE CRITERIA; THAT

1 ESSENTIALLY A FIREARM EXAMINER IS ASKED TO CONSIDER THE BEST
2 KNOWN NONMATCH?

3 A RIGHT.

4 Q BASED ON HIS OWN TRAINING AND EXPERIENCE IN
5 EVALUATING WHETHER THERE WAS A MATCH OR NOT A MATCH?

6 A RIGHT.

7 Q SO UNLIKE IN OTHER FORENSIC DISCIPLINES OR EVEN
8 OTHER METHODOLOGIES, SUCH AS -- THERE IS NO OBJECTIVE --
9 THERE ARE NO OBJECTIVE CRITERIA THAT ARE USED?

10 A THAT'S RIGHT.

11 I MEAN, EVEN IN THE BULLET LEAD ANALYSIS, THERE
12 WAS SOME QUANTIFICATION OF ERROR RATES BECAUSE THE FBI WOULD
13 OBTAIN SEVERAL SAMPLES FROM THE SAME BULLET. AND, YOU KNOW,
14 THERE'S MEASUREMENT ERROR. IT DOESN'T MATTER HOW WELL YOU
15 MEASURE THINGS WITH AN INSTRUMENT, THERE'S STILL MEASUREMENT
16 ERROR.

17 AND EVEN IN THAT TYPE OF EVIDENCE THERE WAS SOME
18 QUANTIFICATION OF ERROR RATES, AT LEAST THE INSTRUMENT ERROR
19 RATES.

20 IN FIREARMS IDENTIFICATION THERE'S NO
21 QUANTIFICATION WHATSOEVER OF ANY ERROR RATE.

22 THE COURT: OKAY. MR. -- I JUST WANT TO BE CLEAR.
23 BECAUSE I'M JUST NOT GOING TO STOP HIS CROSS-EXAMINATION.
24 GO AS LONG AS YOU WANT TO GO. BUT I'M TELLING YOU WE'RE
25 STOPPING AT 3:00. AND I'M ORDERING THE WITNESS BACK MONDAY
26 MORNING.

27 THE WITNESS: I'M IN EUROPE ON MONDAY MORNING.

28 THE COURT: WELL, MAYBE.

1 SO IT'S YOUR CHOICE.

2 MR. MCKEE: I HAVE TWO MORE QUESTIONS.

3 THE COURT: OKAY.

4 BY MR. MCKEE:

5 Q BASED ON YOUR REVIEW OF THE LITERATURE, HAVE
6 THERE BEEN ANY VALIDATION STUDIES CONDUCTED TO DETERMINE THE
7 DEGREE OF CERTAINTY ASSOCIATED WITH THE METHODOLOGY USED BY
8 AFTE?

9 A NO. THE PRESIDENT OF THE AMERICAN ACADEMY OF
10 FORENSIC SCIENCES HAS RECENTLY CALLED FOR THE DESIGN OF SOME
11 VALIDATION STUDIES TO REPLACE NONEXISTING ONES OR FILL THAT
12 GAP.

13 Q AND YOU MENTIONED EARLIER A REPORT BY HARRY
14 EDWARDS?

15 A YES.

16 Q THIS IS A JUDGE FROM THE DC CIRCUIT UNITED STATES
17 COURT OF APPEAL?

18 A YES. UH-HUH.

19 Q AND HE ISSUED A REPORT OR TREATISE, IF YOU WILL?

20 A YES.

21 Q DIRECTED TO BOTH THE BENCH AND THE BAR?

22 A YES.

23 Q SO THIS IS MEANT FOR CONSUMPTION BY JUDGES?

24 A YES. I HOPE SO.

25 Q AND IT CALLS INTO QUESTION THE VALIDITY OF
26 FIREARM MARKS EXAMINATIONS FROM A SCIENTIFIC PERSPECTIVE DUE
27 TO THE LACK OF DATA EXISTING?

28 A WELL, HE GOES AND QUESTIONS MANY TYPES OF -- OF

1 FORENSIC TYPE OF ANALYSIS. BUT IN PARTICULAR, WHAT HE SAYS
2 IS THAT THE FACT THAT SOMETHING HAS BEEN ADMISSIBLE FOR THE
3 LAST 500 YEARS DOESN'T MEAN IT SHOULD CONTINUE TO BE
4 ADMISSIBLE IN THE FUTURE. AND THAT THERE'S A QUOTE HERE
5 THAT SAYS, "SCIENCE MOVES INEXORABLY FORWARD AND HYPOTHESES
6 OF METHODOLOGIES ONCE CONSIDERED SACROSANCT ARE NO LONGER
7 ACCEPTED."

8 MR. MCKEE: THANK YOU VERY MUCH.

9 I HAVE NOTHING FURTHER.

10 THE COURT: OKAY.

11 PLEASE TRY TO PINPOINT YOUR -- YOU'VE DONE A LOT
12 ON CROSS. PLEASE TRY TO PINPOINT.

13 MR. GROBESON: I'LL TRY, YOUR HONOR.

14 THE COURT: IT'S REALLY NECESSARY.

15 MR. GROBESON: BEFORE I DO, MAY I PLEASE --

16 DO YOU HAVE A COPY OF RIVERA STUDY WITH YOU?

17 THE WITNESS: YES.

18 MR. GROBESON: CAN I --

19 MAY I APPROACH, YOUR HONOR?

20 THE COURT: YES.

21 THE WITNESS: YES.

22
23 CROSS-EXAMINATION

24
25 BY MR. GROBESON:

26 Q THANK YOU.

27 A I MARKED A FEW PARTS.

28 Q WELL, I'M LOOKING AT THE RIVERA STUDY. AND, IN

1 FACT, THEY DIDN'T MISTAKENLY IDENTIFY THE CARTRIDGES FROM
2 THE TWO DIFFERENT FIREARMS AS BEING FROM THE SAME FIREARM,
3 CORRECT?

4 A WELL, WHAT THEY DID, IS --

5 Q YES OR NO? THEY DIDN'T DO THAT, DID THEY? THEY
6 WERE ABLE TO TELL THEY CAME FROM TWO DIFFERENT FIREARMS,
7 RIGHT?

8 MR. MCKEE: YOUR HONOR --

9 THE COURT: NO. NO. NO.

10 THE WITNESS: THAT'S NOT TRUE. I MEAN, THEY FIGURED --
11 SO WHAT THEY FOUND WAS, THEY FOUND -- SO THERE WAS A CRIME
12 COMMITTED. AND THEY HAD THIS ONE FIREARM. AND THEN IT
13 TURNS OUT THAT THEY UPLOADED THAT PARTICULAR SPECIMEN INTO
14 NIBIN, AND THEN IN A DIFFERENT DISTRICT THERE WAS ANOTHER
15 CRIME COMMITTED THAT SAME -- THAT CARTRIDGE FROM THAT OTHER
16 CRIME WAS ALSO UPLOADED INTO THE SYSTEM. AND WHAT THEY
17 FOUND WAS THAT THOSE TWO SPECIMENS COMPLETELY MATCHED AND
18 SUGGESTED THEY HAD COME FROM THE SAME FIREARM.

19 BY MR. GROBESON:

20 Q SO WHEN IT READS HERE "FORTUNATELY THERE WERE
21 NOTABLE DISSIMILARITIES BETWEEN THE SHEER MARKS ON THE
22 CARTRIDGE CASES SO THAT THE TESTS FROM THE TWO PISTOLS COULD
23 BE DIFFERENTIATED," THAT DOESN'T MEAN THEY COULD TELL THEM
24 APART?

25 A WELL, THEY --

26 Q YES OR NO?

27 A THEY WERE TALKING ABOUT THE BREECH FACE, WHICH IS
28 THE THING MOST COMMONLY IS USED. AND THEY SAID THAT -- WHAT

1 THEY WERE SAYING IS YOU CANNOT LOOK AT THE BREECH FACE ALONE
2 BECAUSE THE BREECH FACE CAN HAVE SUBCLASS CHARACTERISTICS
3 THAT APPEAR TO BE INDIVIDUAL CHARACTERISTICS.

4 Q SO THAT WHEN A COMPETENT EXAMINER LOOKS AT THAT
5 CARTRIDGES IN THEIR ENTIRETY THEY WERE ABLE TO READILY
6 DIFFERENTIATE THEY CAME FROM TWO DIFFERENT FIREARMS,
7 CORRECT?

8 A PERHAPS. YES.

9 Q WELL, MA'AM, IT'S NOT A PERHAPS. YES OR NO, DID
10 THEY SAY THEY COULD DIFFERENTIATE THEM?

11 A JUST --

12 THE COURT: SHE SAID "YES." SHE SAID, "PERHAPS," AND
13 THEN SHE SAID "YES."

14 BY MR. GROBESON:

15 Q OKAY. SO TO CHARACTERIZE THIS AS TWO GUNS THAT
16 HAD IDENTICAL MARKS IS NOT AN ACCURATE STATEMENT?

17 A THAT'S WHAT THEY SAY. "STARTLING SIMILAR
18 MARKINGS."

19 Q THAT'S NOT IDENTICAL, IS IT?

20 A OKAY.

21 Q WELL, MA'AM, DO YOU THINK "IDENTICAL" AND
22 "STARTLINGLY SIMILAR" MEAN THE SAME THING? YES OR NO?

23 A MAYBE NOT. I DON'T KNOW. IT DEPENDS. YOU SEE
24 THIS IS ONE OF THOSE OBJECTIVE THINGS. I FIND "STARTLING
25 SIMILAR" TO MEAN "ALMOST IDENTICAL." OR "SURPRISINGLY
26 SIMILAR."

27 WELL, I DON'T KNOW. I'M NOT AN ENGLISH SPEAKING
28 PERSON.

1 THE COURT: YOUR ENGLISH IS FINE. I DON'T THINK THAT'S
2 THE ISSUE.

3 BY MR. GROBESON:

4 Q SO IF SIMILAR DNA WAS FOUND FROM TWO DIFFERENT
5 SOURCES, THAT WOULD MEAN THEY'RE IDENTICAL SOURCES?

6 A NO.

7 Q SO "STARTLING SIMILAR" IS NOT SYNONYMOUS WITH
8 "IDENTICAL"?

9 A SO. NOT -- TOTALLY DIFFERENT.

10 Q THANK YOU.

11 NOW, YOU INDICATED, IF I UNDERSTAND CORRECTLY,
12 THAT IN FIREARM ANALYSIS THERE HAVE BEEN NO QUANTIFICATIONS
13 MADE OF ERROR RATES; IS THAT CORRECT?

14 A THAT'S RIGHT.

15 Q SO ARE YOU FAMILIAR WITH THE STUDY DONE BY
16 T.G. FADUL, F-A-D-U-L, AN EMPIRICAL STUDY TO EVALUATE THE
17 REPEATABILITY AND UNIQUENESS OF THE STRIATION IMPRESSIONS?

18 A WHERE WAS THAT PUBLISHED AGAIN?

19 Q AFTE JOURNAL.

20 A RIGHT. JUST SO THAT YOU KNOW, THE ACADEMY OF
21 SCIENCES AND THE AMERICAN ACADEMY OF FORENSIC SCIENCES
22 DOESN'T REALLY CONSIDER THE AFTE JOURNAL AS SCIENTIFIC
23 JOURNAL. THIS IS A TRADE MAGAZINE.

24 Q SO YOU WOULDN'T RELY ON IT THEN?

25 A NO.

26 Q SO THEN THE ARTICLE BY RIVERA THAT WAS IN THE
27 AFTE JOURNAL, YOU SHOULDN'T HAVE RELIED ON IT?

28 A NO.

1 Q BUT SINCE IT'S SUITED YOUR PURPOSES YOU
2 REFERENCED IT IN COURT?

3 A RIGHT.

4 Q SO WHEN IT'S USEFUL TO YOU, YOU RELY ON THE AFTE
5 AND WHEN IT'S NOT, YOU WON'T; IS THAT ACCURATE?

6 A NO. I NEVER RELY ON THE AFTE JOURNAL, TO TELL
7 THE TRUTH. BUT I AM --

8 THE COURT: MA'AM, YOU REFERRED TO IT IN YOUR TESTIMONY
9 HERE IN COURT. WHAT DO YOU MEAN YOU DON'T REFER TO IT?

10 THE WITNESS: BECAUSE YOU CAN IMAGINE, HOW I MEAN IF
11 THEY --

12 THE COURT: YOU SAID YOU NEVER WOULD, YET YOU DID WHEN
13 YOU -- OKAY.

14 LET'S JUST GO ON.

15 THE WITNESS: I RELY ON IT. FINE.

16 BY MR. GROBESON:

17 Q WELL --

18 A SIR, YOU KNOW, YOU CAN QUESTION ME. BUT YOU
19 CANNOT QUESTION -- ARE YOU QUESTIONING THE HONORABLE HARRY
20 T. EDWARDS OR ARE YOU QUESTIONING THE NATIONAL ACADEMY OF
21 SCIENCES? THESE ARE THE BODIES THAT HAVE SAID THAT THERE
22 ARE NO RELIABLE VALIDATION STUDIES.

23 Q AND, IN FACT, YOU SAID THE COMMITTEE REACHED THE
24 SAME OPINION YOU DID REGARDING UNIQUENESS AND
25 REPRODUCIBILITY, RIGHT?

26 A YES.

27 Q SO WHEN THE STUDY SAID, "THERE IS ONE BASELINE
28 LEVEL OF CREDIBILITY, HOWEVER" --

1 A RIGHT.

2 Q -- "THAT MUST BE DEMONSTRATED LEST ANY DISCUSSION
3 OF BALLISTICS IMAGING BE RENDERED MOOT, NAMELY THAT THERE'S
4 AT LEAST SOME SIGNAL THAT MAY BE DETECTED" --

5 A SURE.

6 Q -- "IN OTHER WORDS, THE CREATION OF A TOOL MARKS,
7 MUST NOT BE SO RANDOM AND VOLATILE THAT THERE IS NO REASON
8 TO BELIEVE THAT ANY SIMILAR OR MATCHABLE MARKS EXIST ON TWO
9 EXHIBITS FIRED FROM THE SAME GUN."

10 A ABSOLUTELY.

11 Q AND THEN THEY CONCLUDED THAT, "THE EXISTING
12 RESEARCH DOES SUPPORT THAT REACHING THAT BASELINE LEVEL."

13 A ABSOLUTELY. I MEAN, NOBODY QUESTIONS THAT YOU
14 CAN ACTUALLY LOOK AT MARKS AND SEE THAT THEY MATCH. SO THE
15 QUESTION IS NOT WHETHER TWO PROJECTILES FIRED FROM THE SAME
16 GUN ARE GOING TO LOOK THE SAME. OF COURSE THEY MIGHT LOOK
17 THE SAME. THE QUESTION IS WHETHER TWO PROJECTILES THAT WERE
18 FIRED FROM DIFFERENT GUNS MIGHT NOT ALSO LOOK THE SAME.
19 THAT'S THE QUESTION.

20 Q NOW, IF I UNDERSTAND CORRECTLY, ONE OF YOUR
21 OBJECTIONS TO THE VALIDITY OF THE TOOL MARKS COMPARISON
22 RELATING TO FIREARMS IS THE SUBJECTIVE COMPONENT; IS THAT
23 CORRECT?

24 A YES.

25 Q YET YOU'RE AWARE THAT MANY SCIENCES HAVE A
26 SUBJECTIVE ELEMENT?

27 A NAME ONE.

28 Q PSYCHIATRY. OR DON'T YOU CONSIDER THAT A

1 SCIENCE?

2 A OF COURSE I CONSIDER PSYCHIATRY A SCIENCE.

3 Q DON'T YOU THINK THERE'S A SUBJECTIVE COMPONENT?

4 A IN PSYCHIATRY THEY TAKE OBJECTIVE TESTS, THEY
5 MEASURE THINGS, THEY -- THEY DO ALL KINDS OF THINGS. AND SO
6 THERE MAY BE A LITTLE BIT OF SUBJECTIVE COMPONENT. THERE'S
7 SOME SUBJECTIVE COMPONENTS IN STATISTICS, TOO. BUT THE
8 SCIENCE IS THERE. IN FIREARMS EXAMINING IT'S ALL
9 SUBJECTIVE.

10 Q SO IN INTERPRETING THE RAW DATA THAT A
11 PSYCHIATRIST OR PSYCHOLOGIST COLLECTS, THAT'S NOT
12 SUBJECTIVE?

13 A TYPICALLY PSYCHOLOGISTS DON'T INTERPRET THE DATA.
14 TYPICALLY THEY COLLABORATE WITH STATISTICIANS TO INTERPRET
15 THE DATA. SO, YOU KNOW, THEY COLLECT THE DATA. AND THEN
16 THE EXPERTS IN ANALYZING DATA WILL ANALYZE IT WITH THEM.

17 Q IN TRYING TO DIAGNOSE AN INDIVIDUAL SUFFERING
18 FROM, SAY, SCHIZOPHRENIA WOULDN'T YOU AGREE THAT'S ENTIRELY
19 SUBJECTIVE?

20 A NO. I MEAN, THERE'S VERY ORGANIC MANIFESTATIONS
21 OF SCHIZOPHRENIA. THERE'S BLOOD TESTS. THERE'S FMRI.
22 THERE'S ELECTRIC REACTIONS IN THE BRAIN THAT CAN BE
23 MEASURED. SO, NO. THE ANSWER IS ABSOLUTELY NOT.

24 Q AND OTHER AREAS OF PSYCHIATRY, EVERYTHING IS THAT
25 CONCRETE? WE CAN JUST DO A TEST TO DETERMINE WHETHER
26 SOMEONE SUFFERS AN ILLNESS?

27 Q YOU CAN DO A TEST TO INFORM YOUR DECISION BETTER.
28 SO A TEST DOESN'T DETERMINE ANYTHING ANYMORE. BUT, YOU

1 KNOW --

2 Q THE TEST HAS TO BE INTERPRETED, RIGHT?

3 A IT'S RARE THAT YOU WILL FIND A SCIENCE TODAY THAT
4 IS NOT BASED AT LEAST SOMEWHAT ON SOME REAL SCIENTIFIC
5 TESTING.

6 Q BUT THE IMPORTANT THING IS THAT WHATEVER RAW DATA
7 IS BEING INTERPRETED IS AVAILABLE FOR INDEPENDENT REVIEW BY
8 ANOTHER SOURCE, CORRECT?

9 A BY ANOTHER SOURCE THAT'S NOT YOUR BUDDY FROM YOUR
10 SAME LAB, CORRECT.

11 Q SO, FOR INSTANCE, ONE WAY TO INSURE THAT SUBCLASS
12 CHARACTERISTICS WERE NOT ERRONEOUSLY IDENTIFIED AS
13 INDIVIDUAL CHARACTERISTICS WOULD BE IF THE OPPOSING PARTY
14 HAD THEIR OWN EXPERT EXAMINE THE SAME MATERIALS, CORRECT?

15 A NO. THAT WOULDN'T DO IT. I MEAN, THE ONLY THING
16 THAT THAT WOULD TELL YOU IS THAT THESE TWO PEOPLE AGREE THAT
17 THE MARKS ON THESE TWO -- OR DON'T. DOESN'T MATTER -- THAT
18 THE MARKS ON THESE TWO SAMPLES ARE THE SAME. THAT STILL
19 DOESN'T TELL ME. I DON'T CARE IF 100 PERCENT OF THOSE MARKS
20 MATCH. THAT STILL DOESN'T TELL ME WHETHER THERE'S ANOTHER
21 GUN OUT THERE THAT COULD HAVE LEFT THE SAME MARKS. SO THE
22 ANSWER IS NO. THE -- THE PROBLEM IS THE -- YOU KNOW --

23 THE COURT: YOU ANSWERED THE QUESTION.

24 BY MR. GROBESON:

25 Q HOW MANY GUNS WOULD HAVE TO BE EXAMINED SO THAT
26 WE WOULD HAVE A SUFFICIENT DATA BASE SO WE COULD SAY, "YES.
27 WE CAN ELIMINATE OTHER GUNS AS LIKELY SOURCES"?

28 MR. MCKEE: ASKED AND ANSWERED.

1 THE COURT: OVERRULED.

2 THE WITNESS: OKAY. SO YOU -- THIS QUESTION YOU ASKED
3 ME BEFORE, THIS WOULD REQUIRE THAT A REASONABLE STUDY BE
4 DESIGNED. I CANNOT TELL YOU HOW MANY GUNS IT WOULD TAKE. I
5 TWO OF SIT DOWN AND DO CALCULATIONS. AND NOBODY HAS ASKED
6 ME TO DO SO. BUT IT WOULD BE -- IT WOULD HAVE TO BE A
7 REASONABLY DESIGNED STUDY WHERE GUNS ARE SELECTED AT RANDOM,
8 WHERE A VARIETY OF GUNS ARE TESTED, DIFFERENT RIFLING TYPES,
9 DIFFERENT AMMUNITION TYPES, DIFFERENT CALIBERS, DIFFERENT
10 COUNTRIES OF ORIGIN, DIFFERENT QUALITY OF THE MANUFACTURING.

11 AND, LIKE I SAID EARLIER, THAT STUDY THAT YOU DO
12 TODAY, EVEN IF IT'S THE MOST PERFECT STUDY, WOULD HAVE TO BE
13 UPDATED AS THE MANUFACTURING OF GUNS AND AMMUNITION CHANGES.
14 SO IT WOULDN'T BE SOMETHING THAT YOU DO ONCE AND YOU'RE DONE
15 WITH IT. IT'S SOMETHING THAT YOU WOULD HAVE TO DO -- YOU
16 HAVE TO KEEP UPDATING TO KEEP UP WITH MANUFACTURING. AND,
17 YOU KNOW, NOT ONLY ON THE GUNS BUT ALSO OF THE AMMUNITION
18 THAT'S FIRED THROUGH THEM.

19 IT CAN BE -- CAN IT BE DONE? I THINK IT COULD BE
20 DONE. IT WOULD BE -- SOMEBODY WOULD HAVE TO PAY FOR IT.
21 WHO'S GOING TO PAY FOR IT?

22 Q WELL, WASN'T THAT ONE OF THE CONCLUSIONS THOUGH
23 OF THE NAS STUDY OF 2009 THAT IT'S NOT PRACTICAL TO GENERATE
24 SUCH A LARGE DATABASE?

25 A NO. NO. THAT'S A COMPLETELY DIFFERENT QUESTION
26 YOU'RE ASKING. SO THE QUESTION IS WHETHER IT IS PRACTICAL
27 TO TEST EVERY GUN THAT IS MANUFACTURED OR IMPORTED IN THE
28 UNITED STATES SO THAT WE WOULD HAVE EVERY SINGLE GUN IN A

1 DATABASE. THAT'S ONE QUESTION. THAT'S NOT PRACTICAL.

2 THE OTHER QUESTION IS CAN WE DESIGN A STATISTICAL
3 STUDY, AN EXPERIMENT, TO DETERMINE WHETHER THE ASSUMPTIONS
4 OF UNIQUENESS AND REPRODUCIBILITY HOLD.

5 THAT'S A COMPLETELY DIFFERENT STUDY. AND, YOU
6 KNOW, SO THAT WOULD REQUIRE THAT WE COME UP WITH A SAMPLE OF
7 THE GUNS THAT ARE IN USE TODAY. A SAMPLE THAT HAS TO BE
8 WELL CONSTRUCTED SO YOU CAN GENERALIZE THE CONCLUSIONS THAT
9 YOU DRAW FROM THAT SAMPLE TO THE ENTIRE POPULATION OF GUNS.
10 WE DO THIS ALL THE TIME WITH -- IN MANY OTHER SCIENTIFIC
11 AREAS. WE HAVEN'T DONE IT IN THE AREA OF TOOL MARKS.

12 Q WE HAVEN'T DONE EMPIRICAL STUDIES TO EVALUATE
13 REPEATABILITY OF GUNS?

14 A WE HAVEN'T DONE SERIOUS STUDIES. WE HAVE DONE,
15 YOU KNOW, THE 10 GUNS MANUFACTURE ONE AFTER THE OTHER TYPE
16 OF STUDIES OR THE 35 GUNS OR THE WHATEVER. BUT THESE ARE
17 NOT STUDIES THAT HAVE ANY SCIENTIFIC VALUE.

18 Q BUT WHY DON'T THEY HAVE SCIENTIFIC VALUE?

19 A BECAUSE THEY ARE NOT -- THEY DO NOT INCLUDE A
20 REPRESENTATIVE SAMPLE OF THE GUNS OUT THERE. IT'S -- IT'S A
21 SMATTERING OF LITTLE STUDIES THAT ARE DONE THAT HAVE
22 ABSOLUTELY NO HOPE OF RESULTING IN ANY GENERALIZABLE
23 CONCLUSIONS. RIGHT NOW, I'M -- IF WHAT I'M SAYING IS NOT --
24 SO, WHAT I'M TALKING TO YOU ABOUT IS THE HEART AND SOUL OF
25 THE STATISTICAL DISCIPLINE, RIGHT? MAKE CONCLUSIONS ABOUT A
26 POPULATION BY ANALYZING A SAMPLE.

27 Q SO, FOR INSTANCE, IF 10,000 ROUNDS WERE FIRED
28 THROUGH A .40 CALIBER SMITH AND WESSON, AND EACH OF THOSE

1 CARTRIDGE CASINGS WERE COMPARED, AND ALL OF THEM HAD SIMILAR
2 IDENTIFIABLE MARKS, WOULDN'T 10,000 BE ENOUGH?

3 A IT WOULD TELL ME SOMETHING ABOUT THAT PARTICULAR
4 GUN THAT FIRED THE 10,000. AND I WOULD HAVE TO TELL YOU,
5 THAT GUN LEAVES REPRODUCIBLE MARKS. IT DOESN'T TELL ME A
6 THING ABOUT ANY OTHER GUN.

7 Q WELL, WHAT ABOUT WHEN TESTS THAT ARE SENT TO 238
8 EXAMINERS AND 150 LABORATORIES IN 44 STATES AND 9 COUNTRIES,
9 THAT WERE DONE TO IDENTIFY BULLETS FIRED TO THE BARREL THAT
10 FIRED THEM. AND OUT OF THOSE, 183 OF THE EXAMINERS HAD AN
11 ERROR RATE OF LESS THAN 0.4 PERCENT. WOULDN'T THAT TEND TO
12 VALIDATE REPEATABILITY AND UNIQUENESS?

13 A NO. SO --

14 THE COURT: YOU ANSWERED THE QUESTION.

15 PLEASE GO ON.

16 BY MR. GROBESON:

17 Q THE NAS STUDIES DID NOT ADVOCATE THE ABOLISHMENT
18 OF BALLISTICS EVIDENCE IN COURT.

19 A NO.

20 Q IN FACT, THEY WERE QUITE CLEAR THEY WERE NOT
21 DESIGNED TO DO THAT, CORRECT?

22 A THAT'S CORRECT.

23 Q THEY SPECIFICALLY SAID THEY ARE NOT ADDRESSING
24 THE ADMISSIBILITY OF THINGS IN COURT?

25 A THAT'S RIGHT.

26 Q BUT THAT INDIVIDUALS MAY ATTEST TO UTILIZE THE
27 STUDIES TOWARD THAT END?

28 A YES. IT DOESN'T -- I DON'T THINK THEY WERE

1 WARNING AGAINST THAT.

2 Q DIDN'T THEY INDICATE THAT SOME READERS MAY TRY TO
3 INFER A POSITION BY THE NAS REGARDING THE LEGAL CONTEXT OF
4 TOOL MARKS EVIDENCE?

5 A COULD BE, YES. I MEANT, THE NAS HAS ABSOLUTELY
6 NO POSITION IN TERMS ADMISSIBILITY, I MEAN.

7 Q SO THEN NOTHING THEY CAME ACROSS WAS SO
8 FUNDAMENTALLY FLAWED THAT THEY FELT A NEED TO SAY, "WE
9 SHOULD NOT -- THIS EVIDENCE SHOULD NOT BE ADMITTED"?

10 A WELL, I MEAN, THEY CAME ACROSS -- THEY DID COME
11 ACROSS VERY CLEARLY IN TERMS OF WHAT FIREARMS EXAMINERS
12 COULD CONCLUDE FROM. AND THEY SAID THESE OTHER THINGS THAT
13 ARE FIREARMS EXAMINERS CAN SAY AND THESE THE THINGS THEY
14 CANNOT SAY. SO THAT WAS PRETTY, PRETTY CLEAR.

15 Q WHERE DID THEY SAY THAT?

16 A OH, I DON'T REMEMBER. BUT, FOR EXAMPLE, ONE OF
17 THE THINGS THAT THE COMMITTEE SAYS IS THAT YOU CANNOT
18 POSSIBLY -- I CAN'T REMEMBER THE EXACT WORDS. I WOULD HAVE
19 TO HAVE IT IN FRONT OF ME. BUT I WOULD HAVE TO HAVE TIME TO
20 FIND IT. THAT TO TALK ABOUT -- WHAT WAS IT? PRACTICAL
21 IMPOSSIBILITY THAT TWO GUNS WOULD HAVE FIRED THIS PARTICULAR
22 WOULD HAVE LEFT THE SAME TYPE OF MARKS IS SOMETHING THAT YOU
23 CANNOT CONCLUDE FROM THE INFORMATION THAT WE HAVE AVAILABLE.

24 Q ACTUALLY WHAT THEY DID IS THEY INCLUDED EXCERPTS
25 FROM SOME VARIOUS COURT OPINIONS IS WHAT THEY DID, AND THEN
26 THE COMMITTEE AGREED WITH THE BASIC POINT THAT --

27 A ALL RIGHT.

28 Q "STATEMENTS ON TOOL MARK MATCHES INCLUDING LEGAL

1 TESTIMONY SHOULD BE SUPPORTED BY WORK THAT WAS DONE IN THE
2 LABORATORY, BY NOTES AND DOCUMENTATIONS MADE BY THE
3 EXAMINER, BY PROFICIENCY TESTING OR ESTABLISHED ERROR RATES
4 FOR INDIVIDUAL EXAMINERS IN THE FIELD AND THEIR PARTICULAR
5 LABORATORY. AND THAT EXAMINER SHOULDN'T OVERREACH IN
6 STATING EXTREME PROBABILITIES." ISN'T THAT WHAT THEY
7 CONCLUDED?

8 A RIGHT. THAT WAS ONE CONCLUSION, YEAH.

9 Q SO THAT'S SO LONG AS THERE'S SUFFICIENT
10 DOCUMENTATION, RESEARCH BY A QUALIFIED EXAMINER? THE REPORT
11 DID NOT SAY THAT SUCH TESTIMONY SHOULD NOT BE PERMITTED?

12 A MY REPORT DID SAY SOMETHING ALONG THOSE LINES.
13 NOT THAT -- IT WAS MUCH STRONGER THAN THIS ONE. SO THE
14 BALLISTICS REPORT DID SAYING SOMETHING MUCH STRONGER THAN
15 THAT.

16 Q YOUR REPORT? WHICH REPORT?

17 A THE BALLISTICS IMAGING REPORT. AND I DON'T HAVE
18 IT IN FRONT OF ME.

19 MR. GROBESON: MAY I APPROACH, YOUR HONOR?

20 THE COURT: YES.

21 BY MR. GROBESON:

22 Q LET ME SHOW YOU WHAT I JUST QUOTED FROM: THE
23 BALLISTIC IMAGING REPORT. RIGHT HERE. I JUST READ TO YOU
24 HERE ON THE BOTTOM OF PAGE 82.

25 A OKAY. HOLD ON. WHAT DOES IS SAY. SO IT -- IT
26 SAYS --

27 Q THE COMMITTEE AGREES --

28 A -- THAT HAD --

1 THE COURT: HOLD ON. HOLD ON. JUST READ IT TO
2 YOURSELF. IF IT'S DIFFERENT THAN WHAT MR. GROBESON JUST
3 READ INTO THE RECORD, YOU CAN FEEL FREE TO TELL US.

4 THE WITNESS: OKAY. OKAY.

5 THE COURT: HIS QUESTION IS, IS THAT YOUR REPORT? THE
6 IMAGING --

7 THE WITNESS: YES. THIS IS THE BALLISTICS IMAGING
8 REPORT.

9 THE COURT: OKAY.

10 ANYTHING FURTHER, MR. GROBESON?

11 MR. GROBESON: ONE MOMENT. I'M WAITING FOR THE WITNESS
12 TO FINISH REVIEWING THE DOCUMENT SO SHE CAN CONFIRM --

13 THE WITNESS: NO. I'LL GIVE IT TO YOU. BUT I THINK
14 THERE WAS ANOTHER PIECE THAT I DON'T HAVE IN FRONT OF ME.
15 BUT LET'S LEAVE IT AT THAT.

16 BY MR. GROBESON:

17 Q HOW MANY MEMBERS -- HOW MANY ACTUAL FIREARM
18 EXAMINERS WERE PART OF EITHER NAS COMMITTEE?

19 A I DON'T KNOW ABOUT THE SECOND ONE BECAUSE I WAS
20 NOT A MEMBER. IN MINE THERE WAS ONE.

21 Q THERE WAS ONE?

22 A YES. ARE YOU GOING TO ASK ME WHAT HIS NAME IS?
23 AND I CAN'T REMEMBER.

24 Q NO. SO THERE'S HIM, AND THERE'S MR. MILLER'S
25 STUDY THAT YOU RELY UPON, CORRECT?

26 A YEAH.

27 Q SO THAT THAT'S PRIMARILY WHAT YOUR TESTIMONY IS
28 BASED UPON? THE NAS REPORTS AND MR. MILLER'S STUDY,

1 CORRECT?

2 A NO. MY TESTIMONY IS BASED UPON WHAT I KNOW ABOUT
3 STATISTICS. I AM TRYING TO MAKE STATEMENTS ABOUT HOW TO
4 INTERPRET FINDINGS AND TOOL MARK EXAMINING. I'M -- I AM
5 TRYING TO PUT THIS IN A PROBABILISTIC CONTEXT, WHICH IS A
6 CONTEXT IN WHICH I'M A COMPLETE EXPERT.

7 Q BUT WHAT I'M TRYING TO DO IS ASCERTAIN HOW MUCH
8 OF YOUR EXPERT OPINION IS BASED UPON STUDIES AND RESEARCH
9 DONE BY ACTUAL FIREARMS EXAMINERS. AND SO FAR WE'VE
10 IDENTIFIED MR. MILLER AND AN INDIVIDUAL WHO WAS A MEMBER OF
11 THE NAS COMMITTEE?

12 A I THINK, YEAH.

13 Q THOSE ARE THE ONLY TWO FIREARM EXAMINERS YOU'RE
14 RELYING ON IN TERMS OF FORMULATING YOUR OPINION?

15 A WELL, IN FACT, THE GENTLEMAN THAT WAS IN THE
16 COMMITTEE WAS A RETIRED FIREARMS EXAMINER. SO HE WAS NOT
17 EVEN IN THE PROFESSION ANY LONGER.

18 MR. GROBESON: THANK YOU.

19 IF I CAN APPROACH, I'LL RETURN THE -- RIVERA
20 ARTICLE TO THE WITNESS.

21 Q AND, IN FACT, I THINK THAT RIVERA ARTICLE IT
22 ISN'T EVEN A STUDY, IS IT? THAT'S AN ABSTRACT?

23 A YES.

24 Q SO IT WOULDN'T BE FAIR TO CHARACTERIZE THAT AS A
25 STUDY THAT A SCIENTIST WOULD RELY UPON, IS IT?

26 A I DON'T SEE MUCH DIFFERENCE BETWEEN THIS ONE AND
27 ALL THE OTHERS THAT ARE UP HERE. I MEAN, AGAIN, SCIENTISTS
28 WOULD NEVER RELY ON THE AFTE JOURNAL FOR THE REASONS THAT

1 WE'VE ALREADY SAID. THE AFTE JOURNAL IS NOT INDEXED, NOT
2 RECOGNIZED AS A SCIENTIFIC PUBLICATION. THE RATE AT WHICH
3 IT ACCEPTS SUBMISSIONS IS UNKNOWN. SO PERHAPS EVERYTHING
4 THAT IS SUBMITTED FOR PUBLICATION IS PUBLISHED. WE DON'T
5 KNOW THAT.

6 IN THE SERIOUS JOURNALS YOU WOULD EXPECT 10 TO 15
7 PERCENT ACCEPTANCE RATES. IT'S A VERY INHOUSE JOURNAL,
8 RIGHT? OR PUBLICATION. SO YOU SUBMIT AN ARTICLE AND OTHER
9 FIREARMS EXAMINERS REVIEW ARTICLES. AND SO IT'S VERY SORT
10 OF INGROWN. SO WOULD THIS BE ACCEPTED IN THE WIDER
11 SCIENTIFIC COMMUNITY? I'M AFRAID NOT.

12 Q SO LET ME MAKE SURE I UNDERSTAND. FOR SOMETHING
13 TO BE ACCEPTED IN THE WIDER SCIENTIFIC COMMUNITY AS A
14 RELIABLE SOURCE --

15 A RIGHT.

16 Q -- IT FIRST HAS TO BE --

17 A PEER REVIEWED. BY PEER WE DON'T MEAN MY BUDDIES
18 FROM NEXT DOOR.

19 Q AND PEER REVIEW WOULD BE AFTER THE BASIC THESIS
20 IS GENERATED THEN DISSEMINATED, RECEIVE INPUT FROM PEOPLE
21 WITHIN THE APPROPRIATE SCIENTIFIC COMMUNITY --

22 A WELL, TYPICALLY.

23 THE COURT: LET HIM FINISH THE QUESTION.

24 THE WITNESS: OKAY. GO AHEAD.

25 BY MR. GROBESON:

26 Q AND THEN THE OPINIONS ARE REEVALUATED IN LIGHT OF
27 THAT FEEDBACK OR RESPONSE, CORRECT?

28 A WELL, IT'S EVEN BEFORE THAT, RIGHT? SO I COME UP

1 WITH A THEORY. I WRITE ABOUT IT. I DO WHATEVER
2 EXPERIMENTS. I WRITE ABOUT IT. I SUBMIT IT FOR PUBLICATION
3 IN A JOURNAL. AND BEFORE IT SEES THE LIGHT OF DAY, SOME
4 PEOPLE UNKNOWN TO ME READ IT AND MAKE COMMENTS. AND IF THE
5 COMMENTS ARE FAVORABLE, THEY MAY SUGGEST SOME REVIEWS. I
6 MAY REVIEW MY ARTICLE AND RESUBMIT IT. IT'S RECONSIDERED.
7 AND IF I GET LUCKY IT GETS PUBLISHED. AND IF I DON'T GET
8 LUCKY, IT GETS REJECTED. AND SO -- AND THEN --

9 THE COURT: OKAY. YOU ANSWERED THE QUESTION.

10 THE WITNESS: OH.

11 BY MR. GROBESON:

12 Q AND THE ADDITIONAL STEPS INVOLVED IN SOMETHING TO
13 BE RELIABLE --

14 A YES. WELL, I MEAN, I HAVE SUBMIT IT. SO, FOR
15 EXAMPLE, IN EVERY DISCIPLINE THERE'S JOURNALS THAT ARE MORE
16 RELIABLE THAN OTHERS. AND WHAT DO WE MEAN BY, "RELIABLE"?
17 WE MEAN THAT WE KNOW THAT THE REVIEW PROCESS IS SERIOUS.
18 AND WE KNOW THAT THE ACCEPTANCE RATE IS PRETTY LOW. SO
19 PEOPLE MAY SUBMIT THINGS BUT THEY NEVER GET PUBLISHED
20 BECAUSE THEY'RE NOT SCIENTIFICALLY SOUND.

21 Q SO IT HAS TO BE SCIENTIFICALLY SOUND. IT HAS TO
22 BE SUBJECT TO PEER REVIEW. WHAT ELSE IS A REQUIREMENT IN
23 YOUR ESTIMATION BEFORE SOMETHING IS RELIABLE AS A DOCUMENT?

24 A IT HAS TO BE VALIDATED. SO IF, YOU KNOW -- IF I
25 COME UP WITH A NEW METHOD TO TEST SOMETHING, OTHER PEOPLE
26 HAVE TO BE ABLE TO REPRODUCE WHAT I HAVE DONE. SO IN MANY
27 AREAS OF SCIENCE RIGHT NOW, MORE PARTICULAR IN MEDICINE, FOR
28 EXAMPLE, YOU'RE EXPECTED TO NOT ONLY SUBMIT YOUR WRITE UP,

1 YOU'RE ALSO EXPECTED TO SUBMIT YOUR DATA. AND SO THAT OTHER
2 PEOPLE CAN LOOK AT YOUR STUDY AND REPRODUCE YOUR RESULTS.

3 THE COURT: OKAY. IT'S 17 AFTER. WE'VE GOT TO STOP.
4 DO YOU HAVE ANY MORE QUESTIONS?

5 MR. GROBESON: JUST ONE OR TWO VERY BRIEF QUESTIONS.

6 THE COURT: HOW BRIEF?

7 MR. GROBESON: VERY BRIEF. I JUST WOULD LIKE TO ASK,
8 PLEASE.

9 THE COURT: OKAY.

10 MR. GROBESON: YOUR NAS STUDIES, WERE THOSE SUBJECT TO
11 PEER REVIEW.

12 A ABSOLUTELY SO THE NAS STUDIES ARE SUBJECT TO
13 BRUTAL PEER REVIEW. THEY GO OUT TO ABOUT 20 PEOPLE. IN
14 THE -- WELL, DEPENDS ON THE STUDY. THEY GO OUT TO A LOT OF
15 PEOPLE IN VERY MANY DIFFERENT SCIENTIFIC DISCIPLINES. THEY
16 COME BACK WITH AMAZINGLY BRUTAL COMMENTS. YOU HAVE TO
17 RESPOND TO THOSE COMMENTS. THAT'S A HIGHEST LEVEL OF PEER
18 REVIEW THAT ANYTHING HAS.

19 Q HOW MUCH FIREARM EXAMINERS CONSTITUTED THE PEER
20 REVIEW ON THE BALLISTIC IMAGING?

21 A ACTUALLY, I DON'T KNOW. I WOULDN'T BE ABLE TO --

22 MR. GROBESON: NOTHING FURTHER, YOUR HONOR.

23 THE COURT: OKAY. DO YOU HAVE ANY OTHER QUESTIONS YOU
24 WISH TO ASK?

25 MR. MCKEE: JUST ONE.

26 THE COURT: OKAY.

27

28

REDIRECT EXAMINATION

1
2
3 BY MR. MCKEE:

4 Q DOCTOR, YOU IDENTIFIED VARIOUS CRITERIA THAT YOU
5 WOULD ASSOCIATE WITH A SCIENTIFIC ARTICLE THAT HAS UNDERGONE
6 PEER REVIEW: HAS TO BE SCIENTIFICALLY SOUND. HAS TO BE
7 SUBJECT TO PEER REVIEW. HAS TO BE VALIDATED.

8 ARE ANY OF THOSE PRINCIPALS APPLIED TO THE
9 PUBLICATIONS OF THE STUDIES IN EXISTENCE BY THE AFTE
10 REGARDING FIREARM MARKS EXAMINATION?

11 A UNFORTUNATELY NOT. AT LEAST NOT THE ONES THAT
12 I'M FAMILIAR WITH.

13 MR. MCKEE: THANK YOU.

14 NOTHING FURTHER.

15 THE COURT: OKAY. DOCTOR, HAVE A WONDERFUL VACATION.

16 I WILL SEE EVERYONE -- WE'RE IN RECESS UNTIL
17 MONDAY MORNING. I'LL HEAR ARGUMENTS MONDAY MORNING AS TO
18 THIS MOTION. 8:30 A.M. I EXPECT EVERYONE TO BE HERE ON
19 TIME.

20 WE'RE GOING TO HAVE THE JURY HERE AT 10:30.

21 THE WITNESS: I'M NOT GOING ON VACATION.

22 MR. GROBESON: AS A MATTER OF -- MIGHT I REASONABLY
23 ANTICIPATE WE'RE NOT GOING GET TO TESTIMONY MONDAY, SO I
24 KNOW --

25 THE COURT: NO. WE DEFINITELY WON'T GET TO TESTIMONY
26 MONDAY. I HOPE TO HAVE THE JURY PICKED. NO TESTIMONY.

27 MR. MCKEE: YOUR HONOR, ONE VERY FINAL HOUSEKEEPING
28 MATTER. I HAD ASKED MR. GROBESON IF THERE WERE ANY FELONY

1 OR MISDEMEANOR CONVICTIONS FOR ANDREW BETANCOURT. INITIALLY
2 HE'S A WITNESS ON THE PEOPLE'S LIST. AND INITIALLY IT WAS
3 MY UNDERSTANDING THAT THERE MIGHT BE ONE OR MORE FAILURES TO
4 APPEAR. BASED ON OUR EXCHANGE OF E-MAILS YESTERDAY, IT IS
5 STILL NOT CLEAR ME WHETHER THERE ARE ANY CONVICTIONS OR IF
6 THEY'RE JUST TICKETS. I WOULD JUST SEEK SOME CLARIFICATION
7 ON THAT ISSUE.

8 THE COURT: MR. GROBESON?

9 MR. GROBESON: YOUR HONOR, AS I PREVIOUSLY DISCLOSED TO
10 COUNSEL, I SEE 1, 2, 3 -- IT APPEARS THERE MIGHT BE A 5TH
11 FAILURE TO APPEAR. I FURNISHED COUNSEL WITH THE VARIOUS
12 NUMBERS. THEY ALL SEEM TO HAVE A SD PREFIX.

13 MR. MCKEE: I WAS PROVIDED WITH TICKET NUMBERS. I'M
14 SEEKING CLARIFICATION AS TO WHETHER THERE WERE ANY
15 MISDEMEANOR CONVICTIONS. I HAVE ACCESS TO A SYSTEM. AND IN
16 THAT SYSTEM -- WITHIN THAT SYSTEM I DON'T SEE ANY.

17 THE COURT: MR. GROBESON, YOU'RE SAYING YOU GAVE HIM
18 THE INFORMATION YOU HAVE; IS THAT CORRECT?

19 MR. GROBESON: CORRECT. BASED CII RAP SHEET. AND ALL
20 FIVE WERE MISDEMEANORS.

21 THE COURT: AND ALL FIVE WERE MISDEMEANORS?

22 MR. GROBESON: YES.

23 THE COURT: OKAY.

24

25 (AT THIS TIME AN EVENING RECESS
26 WAS TAKEN. THE PROCEEDINGS WERE
27 RESUMED APRIL 30, 2012.)

28

1 CASE NUMBER: LA067366
2 CASE NAME: PEOPLE VS. ROGER KNIGHT
3 LOS ANGELES, CALIFORNIA, APRIL 30, 2012
4 DEPARTMENT NW "S" HON. MICHAEL JESIC, JUDGE
5 REPORTER: LEANNA J. ROESSELL, CSR NO. 11240
6 TIME: A.M. SESSION
7

8 APPEARANCES:

9 DEFENDANT WAS PRESENT WITH COUNSEL,
10 HARRY MCKEE, DEPUTY PUBLIC DEFENDER;
11 JAY GROBESON, REPRESENTING THE PEOPLE
12 OF THE STATE OF CALIFORNIA.
13

14 (PROCEEDINGS PRIOR TO THIS WERE
15 REPORTED, NOT ORDERED TRANSCRIBED,
16 AND THE COURT'S RULING AS TO THE
17 KELLY-FRYE MOTION WAS AS FOLLOWS:)
18

19 THE COURT: OKAY. JUST GOING TO NOTE SOME THINGS
20 BEFORE I MAKE MY RULING. THERE'S NOTHING -- THERE IS
21 NOTHING THAT I HEARD FROM DR. CARRIQUIRY WHICH LEAD ME TO
22 BELIEVE THAT THERE WAS ANYTHING WRONG WITH THE SCIENCE.
23 WHAT SHE PROPOUNDED WAS THAT THERE MAY BE SOMETHING WRONG,
24 AND WE MAY FIND OUT SOMETHING IN THE FUTURE. BUT THERE'S
25 BEEN NO STUDIES TO SHOW -- THERE'S NOTHING THAT SHE CAN
26 CITE, WHATSOEVER, TO SHOW THAT THERE'S BEEN SOME PROBLEM
27 WITH MISIDENTIFICATIONS ANYWHERE IN THE COUNTRY. THIS IS A
28 PART OF SCIENCE THAT HAS BEEN USED FOR DECADES. SHE JUST

1 DOESN'T BELIEVE THAT IT'S BEEN VALIDATED.

2 AND BASED ON HER TESTIMONY, I DON'T THINK THAT
3 ANYTHING WOULD EVER SATISFY HER THAT IT WOULD BE VALIDATED.
4 AND I DO WANT TO NOTE THAT BASED ON HER TESTIMONY AND HER
5 OPINION, THAT IF I WERE TO FIND THAT THERE WAS A CHANGE IN
6 THE ATTITUDE OF THE SCIENTIFIC COMMUNITY, BASED ON HER
7 TESTIMONY, UNDER KELLY-FRYE IT WOULD CALL INTO QUESTION
8 FINGERPRINTS, FIREARMS, PAINT CHIP MATCHES, TOOL MARK
9 MATCHES, SHOE PRINT MATCHES.

10 UNDER HER THEORY FINGERPRINTS WOULD NO LONGER BE
11 ACCEPTABLE IN COURT, THAT THERE IS INSUFFICIENT VALIDATION.
12 THAT WAS HER TESTIMONY. AND I DON'T BELIEVE ANYTHING WOULD
13 SATISFY HER UNDER HER PREMISE IN ANY FIELD OF SCIENCE OTHER
14 THAN DNA.

15 QUITE HONESTLY, HER TESTIMONY WAS SOME OF THE
16 LEAST COMPELLING SCIENTIFIC TESTIMONY I HAVE EVER HEARD. I
17 QUESTIONED WHETHER OR NOT I SHOULD HAVE EVER LET HER TESTIFY
18 IN THIS CASE BASED ON WHAT HER KNOWLEDGE WAS. SHE IS A
19 STATISTICIAN, NOTHING MORE, AND I GUESS NOTHING LESS.

20 I FIND THERE IS NO CHANGE IN THE ATTITUDE OF THE
21 SCIENTIFIC COMMUNITY OF FIREARMS EXPERTS OR ANYONE OTHER
22 THAN HERSELF. THE STUDIES THAT SHE CITED, ONE, WAS
23 SOMETHING THAT -- SHE CITED A STUDY THAT SHE SAID NO ONE
24 SHOULD EVER CITE. SHE WAS VERY CLEAR ON THAT. I DON'T
25 BELIEVE IT WAS EVEN A STUDY. HER OWN STUDY THAT WAS DONE
26 HAD NOTHING TO DO WITH FIREARMS EVIDENCE BUT HAD TO DO WITH
27 BULLET LEAD COMPARISON. AND WHAT I GOT FROM HER TESTIMONY
28 WAS THAT EVEN IN THAT STUDY THAT WAS DONE, I BELIEVE THERE

1 WAS A QUOTE IN THERE STATING THAT THERE IS NOTHING WRONG
2 WITH FIREARMS EVIDENCE AS LONG AS CERTAIN PRECAUTIONS WERE
3 TAKEN TO MAKE SURE THAT THEY WERE DONE PROPERLY. AND, SO,
4 AGAIN, THIS ISN'T EVEN CLOSE. AND SO THE MOTION TO EXCLUDE
5 TESTIMONY UNDER KELLY-FRYE IS DENIED.

6 ALL RIGHT. LET ME KNOW RIGHT NOW, REALISTICALLY,
7 HOW MANY WITNESSES -- I DON'T NEED TO YOU TO TELL ME WHICH
8 ONES, BUT I NEED TO KNOW HOW MANY WITNESSES YOU PLAN ON
9 CALLING.

10 MR. GROBESON: I THINK IT WILL PROBABLY BE 11 OR 12.
11 SOME OF THEM ARE GOING TO BE PRETTY BRIEF LIKE AN APARTMENT
12 MANAGER TO SAY THE DEFENDANT AND MS. FIELDS LIVED IN THIS
13 APARTMENT. SOME OF THAT TYPE. I ANTICIPATE TWO OF THEM ARE
14 GOING TO BE FAIRLY LENGTHY. MR. WILLIS, OBVIOUSLY, HE'S THE
15 VICTIM, AND I ASSUME DEFENSE IS GOING TO WANT TO SPEND SOME
16 TIME WITH MR. MOORE, THE S.I.D. EXPERT.

17 THE COURT: HOW MANY WITNESSES DO YOU PLAN ON CALLING,
18 MR. MCKEE, OTHER THAN THE DEFENDANT?

19
20 (END OF PORTION ORDERED TRANSCRIBED.)
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SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

DEPARTMENT NW "S"

HON. MICHAEL JESIC, JUDGE

THE PEOPLE OF THE STATE OF CALIFORNIA,)

PLAINTIFF,)

CASE NO. LA067366

VS.)

ROGER KNIGHT,)

DEFENDANT.)

_____)

I, LEANNA J. ROESSELL, OFFICIAL COURT REPORTER OF THE SUPERIOR COURT OF THE STATE OF CALIFORNIA, FOR THE COUNTY OF LOS ANGELES, DO HEREBY CERTIFY THAT THE FOREGOING PAGES, 1 THROUGH 68, INCLUSIVE, COMPRISE A FULL, TRUE, AND CORRECT TRANSCRIPT OF THE PROCEEDINGS HELD IN THE ABOVE-ENTITLED MATTER ON APRIL 27 AND 30, 2012.

THIS TRANSCRIPT COMPLIES WITH 237(A)(2) OF THE CODE OF CIVIL PROCEDURE.

DATED THIS 1ST DAY OF MAY, 2012.


LEANNA J. ROESSELL, CSR NO. 11240
OFFICIAL REPORTER