## Miller, Robert

Testimony of Irvin C. Stone

MR. ELLIOTT: We have nothing further of the 1 witness, Judge. 2 THE COURT: Any questions of this witness? 3 MR. EVANS: No questions. 4 THE COURT: Thank you. 5 THE WITNESS: Thank you, Your Honor. 6 THE COURT: You may call your next. 7 MR. MACY: May it please the Court. 8 IRVIN C. STONE, 9 called as a witness on behalf of the State of Oklahoma, 10 having been first duly sworn, testified as follows: 11 DIRECT EXAMINATION 12 BY MR. MACY: 13 Will you state your name, please, sir? 14 Irvin C. Stone. 15 And what is your occupation or profession, sir? 16 I am the chief of the Physical Evidence Section at the 17 Institute of Forensic Sciences in Dallas. 18 And what is your educational background, sir? 19 I have a bachelor of science in geology from the Iowa 20 State University and a master of science and PhD in 21 geochemistry from the George Washington University. 22 What is your work experience, your experiential 23 background, sir? I was a special agent in the F.B.I. for six and a half 25

years, last two of which were in the F.B.I. laboratory.

spent seven years in industries as an analytical chemist.

And I've been at the Institute of Forensic Sciences since 1972.

I'm also an associate professor of clinical pathology in the University of Texas, Southwestern Medical Center. I'm a chairman of the graduate program in forensic sciences for the University of Texas system.

- Q In addition to your formal education, have you had additional training besides your work experience, Doctor?
- 11 A Yes, sir,

- And would you detail some of that to the jury, please, sir?
- A It would have been -- included things like special courses in the interpretation of bloodstains. I've had three different courses that I have taken over a period of years. And, of course, I've attended seminars and workshops in firearms, tool marks, and attended the -- many of the scientific sessions that are put on for forensic scientists.
- Q And do you belong to any professional organizations, Doctor?
- 22 A Yes, sir.
  - Q And what are some of those, sir?
- A I'm a distinguished member of the Southwestern
  Association of Forensic Scientists. I'm a fellow in the

- American Academy of Forensic Scientists. And I'm a regular member in the Association of Firearms and Tool Mark Examiners, and two or three other organizations.
  - Q Have you been published, sir?
- 5 | A I have.

- And would you detail to the jury a little bit of some of your articles or books that have been published?
- A I've had approximately 25 to 30 different articles published in the forensic science literature that have ranged from gunshot residues to the use of fingernail striations to blood and body fluid analyses, hairs, and fibers. But in the last few years, they've been primarily in the area of tool marks and fingernail striations, as well as gunshot residues.
- Q In your present position, Doctor, what do you spend the majority of your time in?
- A Well, paperwork mostly as the administrator. But I do work the unusual cases as they go by.
- Q And what area would these unusual cases be?
- A Mostly in the area of gunshot residue and scenery construction and all the cases that will come in regard to fingernails.
- Q Doctor, with respect to fingernails, is there a correlation or a commonality between fingernail comparisons and gunshot or tool mark identifications?
- 25 A Well. in part the answer is "yes" to your question.

If I can elaborate?

Q If you would, please, sir.

A Fingernail striations are those marks which are on the underside of your fingernail. These marks, which are called growth striations, are caused as your fingernail moves across the nailbed, which is kind of a ridge and valley structure. As the nail comes across the nailbed, it causes extrusion marks which are in the ultimate sense a set of random marks or lines on the underside of your fingernail that are just like a tool mark.

So, the proper answer to your question is that these growth striations rest in the same body of forensic literature and forensic work which we refer to as tool marks and the kind of marks that are found on bullets in matching them to gun barrels.

MR. MACY: May I approach, Your Honor? THE COURT: Yes.

Q (By Mr. Macy) Doctor, I'm going to hand you what's been marked for identification purposes as State's Exhibit 85D and State's Exhibits 98 and 99 and ask you if you recognize those items, please.

- A Yes, sir, I do. Each of them has my initials on them.
- Q And what are those items, Doctor?
- A These are fingernails which were received by me on March 18, 1988.

- Q From whom did you receive them, please?
- A They came into me by Federal Express from Joyce
  Gilchrist in the Oklahoma City Police Department Crime
  Laboratory.
  - Q And how were these identified to you, as belonging to whom, sir?
  - Exhibit 99 was identified as the number three fingernail taken from R. H. Miller, which the number three fingernail would be on the right hand, which would be the middle finger of the right hand. This also had the -- the is the number two -- State's Exhibit 98 is the number two fingernail, and State's Exhibit 85-1 is identified as the scene -- the nail which came from the scene, the crime scene.
  - And, Doctor, there at your laboratory, did you make a comparison of the nails allegedly taken from the hands of Robert L. Miller, Jr., and with the one recovered that was indicated to you that they recovered at the crime scene?
- A Yes, sir.

- Q And after making your examination, did you come to any legal opinions or conclusions?
- A I did come to a conclusion.
- 23 Q And what is your conclusion, Doctor?
- 24 A In my opinion the number three fingernail from the 25 right hand identified as from the right hand of Miller,

which is State's Exhibit 99, is similar in the fingernail striations marks, the tool marks, if you would, to the nail from the crime scene, which is State's Exhibit 85D, David. And in my opinion the nail from the crime scene could have come from the source represented by the number three finger of Mr. Miller.

- Now, Doctor, I believe in your examination you examined cuttings taken from all of these fingers and all of his toes; is that correct?
- 10 A Yes, sir.

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- Q And you eliminated all of them except for the number three finger on the right hand; is that correct?
- 13 A That is correct; yes, sir.
  - Q It could not have come from any of those others, but it could have come from that one.
- 16 A Yes, sir.
- 17 Q Can you say definitely that it came from that hand?
  - A No, sir.
- 19 || Q And why not?
  - A The actual tool marks, the fingernail striations lack sufficient quality for me to come to a conclusion that they are in fact a positive match, meaning that the fingernail from the scene came definitely, positively, and uniquely from Mr. Miller. I cannot say that.
- 25 Q All right. Will you detail to the jury what you went

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through, the process that you went through, Doctor, in arriving at your conclusion?

In a case like this, where fingernails are received from the scene of a death, or a fingernail, is to be compared with fingernails from a person accused of the offense. is done is to first compare these fingernails and their fingernail striations or the growth lines under a low power binocular microscope. When you see under the microscope that there are obvious differences and the nail from the death scene cannot be the source, or the nail from the scene could not have come from a certain finger, you eliminate that. Then as you -- you see that there are similarities between two nails, the next thing that I would do would be to use a special material called mikrosil, M-I-K-R-O-S-I-L, which causes a replica or a reverse image of the lines on the fingernail. And I would do that for the scene nail and the nail say from the suspect in this case. And these two would then be placed on a forensic comparison microscope, which is a microscope that is a split image microscope. On one side you would have the nail from the scene, the other side the nail from the defendant. And you would see if the unique tool marks, the fingernail striations match sufficiently in quantity and quality to determine that they did in my opinion come from the same person.

That was done in this case.

1 There were insufficient unidentifying characteristics to positively associate the nail from the 2 scene with Mr. Miller's number three nail. 3 But there were no significant differences by which you 5 can eliminate it. 6 There were no significant differences by which I would conclude that the nail from the scene did not come from Mr. 7 Miller. 8 9 MR. MACY: No further questions. 10 Your witness, counsel. 11 THE COURT: You may cross-examine. 12 CROSS-EXAMINATION BY MR. EVANS: 13 Now, Doctor Stone, you're aware that somebody looked 14 at this nail before you; right? 15 16 I am aware of that, yes, sir. You're aware that somebody from the Oklahoma State 17 Bureau of Investigation looked at the nail and arrived at a 18 conclusion; right? 19 20 Yes, sir. Now, he looked at it some months prior to the time 21 22 that you did; is that true? A 23 That's my understanding, yes, sir. And just so I understand what you're telling the Court and the jury, we have sample nails that were taken from Mrs.

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fingernails and toenails; is that right? 1 Yes. sir. Α You examined those. 3 I did. You examined those as against the nail that was found 5 in the bed in which she was killed; right? 6 Yes, sir. 7 And you examined that nail against all of Mrs. 8 nails, all of her nails on her hands and all of her 9 nails on her feet, and you can state positively, 100 percent 10 for sure, that that nail that was found in her bed did not 11 come from her; right? 12 That's my opinion, yes, sir. 13 All right. And you took I guess 20 nails that were 14 taken from Robert, Robert Miller over here, my client, and 15 you examined all of his toenails; right? 16 Yes, sir. 17 And you can state to the jury in your opinion 100 18 percent that none of those toenails matched the nail that was 19 found in Mrs. bed: right? 20 A Yes, sir. 21 And when you say that as to the toenails, we're not 22 talking about hair comparison type, we're talking -- it's 23 more like a fingerprint; is that right? 24 That is correct. A 25

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You can say for sure that Robert could not have
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     donated that nail as far as his toenails go; right?
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            Correct.
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            And as to every finger on his hand, except the third
     finger on his right hand, as to those nine fingers, you can
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     tell this jury absolutely 100 percent sure that he couldn't
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    have donated that nail as to those nine fingers; right?
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            Correct.
          So, what we're getting down to is one finger on one
    hand, and as to that finger, you're not sure whether he
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    donated that nail or not; right?
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           Yes, sir.
           It's possible that he couldn't; right?
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           Yes, sir.
           And it's possible that he could because the nail just
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    wasn't of sufficient quality as far as the striations, as far
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    as the marks go, for you to have enough to compare; right?
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           Yes, sir.
           And it's also equally possible that somebody else
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    donated that nail, somebody else --
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           That is --
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           -- besides Robert Miller, Jr.; right?
           That is possible, yes, sir.
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THE COURT: Further questions?

Pass the witness.

MR. EVANS:

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REDIRECT EXAMINATION 2 BY MR. MACY: 3 Dr. Stone, is a fingernail ever consistent, where you have all the necessary striations, with more than one 5 finger? For instance, would the finger -- would the nails 6 from two fingers on my hands, two different fingers be the 7 same? 8 No, sir. The fingernail is unique -- as unique to 9 your finger as your fingerprint is to a finger. It is a 10 means of personal identification. 11 In other words, on that finger -- on that nail that 12 was found, you would never expect to find it consistent with 13 more than one finger; is that right? 14 From one person, one finger, yes. 15 All right, 16 MR. MACY: I have no further questions. 17 THE COURT: All right. Further cross-18 examination? 19 MR. EVANS: No, sir, I don't think so. 20 Pass the witness. 21 THE COURT: Thank you. 22 MR. MACY: May he be excused, Your Honor? 23 THE COURT: Yes, you may. 24 THE WITNESS: Thank you, sir. 25

MR. MACY: Just a couple, Your Honor.

witnesses.

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24 25 We'd like to first call Dr. I. C. Stone.

THE COURT: Let me first explain to the jury that the State rested earlier. The defendant has now rested. Our rules of procedure permit the State, if it choses, to call witnesses in what we call rebuttal, which means just that, designed to rebut things that have been brought out by the defendant's evidence. And the next and final witnesses will be the State's rebuttal witnesses.

You may call your first.

MR. MACY: Thank you.

He's been previously sworn.

THE COURT: You've been sworn and you're still testifying under oath.

> THE VITNESS: Yes. sir.

THE COURT: Yes.

## IRVIN C. STONE,

called as a rebuttal witness on behalf of the State of Oklahoma, having been previously sworn, testified as follows:

## DIRECT EXAMINATION

BY MR. ELLIOTT:

- Q State your name, please.
- Irvin C. Stone.
- And you're the same Irvin C. Stone who testified earlier in this case.

I am.

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Now, Dr. Stone, what I'd like to ask you at this point is if you're familiar with a person by the name of Melvin R. Hett.

Yes, sir.

Did you have an occasion on or about March the 20th or 21st to have a conversation with Mr. Hett concerning the evidence in which you've previously testified to?

Yes, sir.

Could you relate the conversation to us that you had with Mr. Hett?

I had finished examining the fingernails in this particular case, and I had been told by Joyce Gilchrist earlier that Mr. Hett had examined the fingernails. I didn't know what results he had gotten. And so I called Mr. Hett at his office and spoke with him.

In the course of the conversation I said I had finished my examination and that had done it for the court and that I was getting ready to write my report but I was interested in knowing what his results were. And basically Mr. Hett told me that he thought that he remembered that he eliminated the fingernails. And I said, well, when you say "eliminated," do you mean that you are saying that the fingernail from the crime scene, from the scene of the death, absolutely could not have come from Mr. Miller. And he kind

of said, well, no, I'm not going to say that. And I said, 1 well, that really rests in the area of being an inclusive 2 match. He said, well, I guess you could call it that. 3 Now, that's my best recollection. But we had 5 this discussion and he -- my understanding was he was not going to testify that that nail was excluded as being from 6 Mr. Robert Miller. 7 And that was on March the 20th or 21st. 8 19th, 20th, no later than the 21st. 9 10 Certainly after March the 9th though. Oh, yes. Well, I didn't get the evidence till March 11 18th. 12 MR. ELLIOTT: No further questions, Judge. 13 THE COURT: You may cross-examine. 15 CROSS-EXAMINATION BY MR. EVANS: 16 How long did this conversation with Mr. Hett last? 17 Probably not more than five or six minutes. Were you making notes, Dr. Stone?

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- No. I did not make any notes. 20
- The words that you've attributed to Mr. Hett, are 21
- those his exact words? 22
- To the best of my recollection. 23
- 24 You say it was your understanding that he said this, this, and this. You didn't have his report at the time 25

1 | though, did you?

A I did not see his report until Friday. Just four days ago is the first time I saw his report.

Q You're aware that in Hett's opinion, Mr. Hett's opinion, who is a chemist for the State of Oklahoma --

A (Nods head up and down.)

Q -- his opinion that Robert Lee Miller is eliminated as a possible source of the fingernail.

A When I saw the report last Friday, I brought it to Mr. Elliott's attention that that is what he had said and what he had reported, yes, sir.

Q Based on your testimony last Friday, you disagree-with it.

A That is correct.

It's your opinion that where -- he might be -- he can't be eliminated but he can't necessarily be included.

There isn't a sufficient sample for you to test to make those determinations. Is that what you said last Friday?

I'm not sure you quoted me right. I said that the right — the right third finger, right middle finger has similarity. Mr. Miller has similarities to the crime scene nail. I cannot say that that fingernail from the crime scene came from Mr. Miller; although, by the same token, I cannot eliminate him as a source of that fingernail.

So, you basically -- you're telling us you disagree

- 1 | with Mr. Hett; right?
- 2 A Yes, sir.
- Now, you have worked with Mr. Hett before, have you
- 4 | not?
- 5 A Yes, I have.
- 6 Q And you've written papers on the subject of fingernail comparisons; right?
- 8 A Yes.
- 9 Q One of the articles you wrote was an article from the
- 10 | Journal of Police Science and Administration, an article that
- 11 | has a copyright of 1984, and the title of the article is
- 12 | "Evidentiary Basis for Fingernail Striations Association" by
- 13 | I. C. Stone and Allan Wilimousky; is that right?
- 14 A Yes, sir.
- 15 | Q That is the article that you wrote.
- 16 A That's the --
- 17 Q Or co-wrote anyway.
- 18 A That's the last article I wrote on fingernails, yes,
- 19 | sir.
- 20 Q That's your last published work on fingernail
- 21 | analysis.
- 22 A Yes, sir.
- 23 | Q And do you recall signing with approval, Dr. Stone,
- 24 | some work that Mr. Hett has done?
- 25 A Oh, yes. I -- actually my interest in fingernail

note my objections. I saw Mr. Citty seated in the courtroom