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MR. WHITWORTH: All right.

(The following proceedings were had IN THE PRESENCE AND HEARING OF THE JURY:)

JOHN WILSON,

having been duly sworn by the Judge, testified as follows:

DIRECT EXAMINATION BY MR. WHITWORTH:

- Q. State your name for the Court, please.
- A. John T. Wilson.
- Q. Mr. Wilson, where are you employed?
- A. Regional Crime Laboratory in Kansas City.
- Q. What is your occupation?
- A. Chief Forensic Chemist in the trace evidence and serology section.
- Q. Will you describe the nature of your work?
- A. In addition to supervising other chemists, I analyze various types of trace evidence such as hair and fibers and blood.
- Q. How long have you been engaged in the work you've described?
- A. About fifteen years.
- Q. And how many, what are your college degrees?
- A. I have a college degree in biology and chemistry from Park College in Parkville, Missouri.
- Q. Do you have any special training or studies you've taken to qualify as specialist in your work?

1 A. Well, --

2 Q. Let's narrow it to hair comparisons.

3 A. Well, I initially underwent a training program at

4 the Regional Crime Lab and I've attended a number

5 of seminars with the Academy of Forensic Sciences,

6 in the Midwest Association of Forensic Sciences,

7 at the Missouri Academy of Sciences and the F.B.I.

8 Academy in Quantico, Virginia.

9 Q. Did you state you're a member of the American

10 Academy of Forensics?

11 A. I'm a fellow in the Academy, yes.

12 Q. Are you a member of any of their criminalistics

13 division?

14 A. Yes, I am.

15 Q. What is the difference between the criminalistics

16 division and just the American Academy?

17 A. There is a number of sections in the Academy for

18 concerning various types of work one does and the

19 criminalistics section is the one that involves

20 the type of work I do which is hair comparisons.

21 Q. Do you take proficiency exams in accordance with

22 your work in hair comparisons?

23 A. Yes.

24 Q. How much of your time at the crime lab is devoted

25 to hair comparisons?

1 A. Well, of the bench time, probably 75 or 80% percent
2 of my time.

3 Q. Have you had any articles published in hair
4 comparisons, anything to do with hair?

5 A. Yes, I have.

6 Q. What are those, sir?

7 A. Well, I published a pamphlet along with Gary Howell
8 at the lab concerning sexual assault evidence
9 that concerned primarily collecting hair and it's
10 used in sexual assault evidence. That was published
11 through the local metropolitan association to
12 counter sexual assault. I believe they use that for
13 a training book. I published a paper "Forensic
14 Microscopy" in Trends in Analytical Chemistry that
15 concerned in part hair work. Published "The
16 Occurrence of Foreign Hair and its Genetic Marker
17 Determination In Sexual Assault Evidence" and that
18 was a paper given at the F.B.I. Academy and it
19 concerned identifying foreign hair in sexual
20 assaults, primarily. Also currently in press is an
21 article that was given at the F.B.I. Academy at the
22 International Symposium that concerned "Microscopic
23 Identification of Human Hair Shaft Anomalies".

24 Q. Have you published any articles on microscopy?

25 A. In addition to two of those I've mentioned, I also

1 published an article in "Optical and Electron
2 Microscopy", "Microscopy in the Crime Laboratory" and
3 that was published, which is a British journal.

4 Q. Mr. Wilson, approximately, and I know this is
5 difficult, approximately how many hair examinations
6 or tests have you performed in the course of your
7 employment with the Regional Crime Lab?

8 A. Many thousands.

9 Q. Over what period of time?

10 A. Thirteen years.

11 Q. In approximately what percentage of the hair
12 comparisons you've done were you unable to make a
13 match?

14 MR. BROWN: I object to that as being
15 irrelevant.

16 THE COURT: Do you care to comment? I
17 don't see the relevancy.

18 MR. WHITWORTH: I'll move on, Your Honor.

19 THE COURT: All right. Objection will be
20 sustained.

21 Q. (By Mr. Whitworth) Have you previously qualified
22 as an expert in hair identification in other Courts?

23 A. Yes, I have.

24 Q. Approximately how many times?

25 A. At least fifty times.

1 Q. In which courts have you testified?

2 A. Testified in Missouri, Oklahoma, Kansas and Iowa,
3 in State Courts and I've testified in Federal Court
4 in Missouri and Kansas.

5 Q. Do you testify both for the prosecution and the
6 defense?

7 MR. BROWN: I object, Your Honor, irrelevant
8 in this case.

9 MR. WHITWORTH: It goes to his credibility.

10 THE COURT: I don't think that his
11 credibility has been attacked yet.

12 Objection will be sustained.

13 MR. WHITWORTH: Your Honor, at this time, I
14 tender Mr. John Wilson as an expert in hair
15 comparison.

16 MR. BROWN: For the limited purpose, I
17 object at this time for the reasons previously
18 stated.

19 (The following proceedings were had in the presence
20 but OUT OF THE HEARING OF THE JURY:)

21 MR. BROWN: We've challenged Mr. Wilson
22 with respect to his expertise in the area of these
23 anomalies. His tendering of Mr. Wilson covers
24 everything that he has talked about here to lay
25 a foundation for his qualifications and we'd object

1 to him being qualified as an expert with respect to
2 anomalies and general hair comparisons.

3 THE COURT: You know, in my 34 years in
4 the Court, I don't think I've ever heard a lawyer
5 object to a witness as an expert. He does it and
6 goes on.

7 Objection will be overruled.

8 (The following proceedings were had IN THE PRESENCE
9 AND HEARING OF THE JURY:)

10 Q. (By Mr. Whitworth) Mr. Wilson, in the course of
11 your work as a hair analysis expert at the Regional
12 Crime Lab, did you have occasion to receive from the
13 Raytown Police Department, certain evidence relative
14 to this case? A. Yes, I did.

15 Q. And what did you receive, sir?

16 A. Received sexual assault kit and a number of articles
17 of clothing.

18 Q. I'm handing you State's Exhibit No. 28. Is this
19 the bag that you received?

20 A. I received hair standards in this bag, yes.

21 Q. And I'm, how do you know that's your bag?

22 A. It bears my tape from the Crime Lab and my initials
23 and the date that I resealed the bag which was
24 June 19, 9, 1987.

25 Q. I hand you State's Exhibits 29 and 30. Can you

1 identify those?

2 A. Those are more samples of hair that I also examined
3 and it bears my initials and the date May 22, 1987.

4 MR. WHITWORTH: Your Honor, at this time,
5 we'd offer in evidence State's Exhibit 28.

6 THE COURT: I think it has already been
7 received.

8 MR. WHITWORTH: 28 was not, Your Honor.

9 THE COURT: What is the probative value of
10 the sack?

11 MR. WHITWORTH: Just chain of custody, Your
12 Honor.

13 (The following proceedings were had in the presence
14 but OUT OF THE HEARING OF THE JURY:)

15 MR. BROWN: I object to it.

16 THE COURT: I'll receive it for the mere
17 purpose of showing chain of custody but it's nothing
18 that the jury needs to see.

19 (STATE'S EXHIBIT NO. 28 HAVING BEEN SO OFFERED AND
20 RECEIVED IN EVIDENCE IS NOT INCLUDED HEREIN BUT WILL BE
21 FILED SEPARATELY.)

22 MR. WHITWORTH: I agree, Your Honor.

23 THE COURT: Do you agree to that?

24 MR. BROWN: I agree but I'd also object
25 to Mr. Wilson for the reason he is not properly

1 endorsed in this case.

2 THE COURT: You're right but you waived
3 it. You went too far. And I think there is cases
4 that will tell you that, too.

5 (The following proceedings were had IN THE PRESENCE
6 AND HEARING OF THE JURY:)

7 THE COURT: For the record, your motion
8 was denied.

9 Q. (By Mr. Whitworth) Sir, what did you do with the
10 rape kit when you received it?

11 A. I took it back to the lab and opened it and looked
12 at the items of evidence.

13 Q. Did you have occasion to examine the pubic hair
14 combing of the alleged victim, [REDACTED]?

15 A. Yes.

16 Q. What did you find?

17 A. Found a number of hairs present.

18 Q. Did you find any foreign hairs? A. Yes, I did.

19 Q. How many?

20 A. There was one very dark, typical Negroid pubic hair
21 present in her pubic combings.

22 Q. What tests or examination did you perform on the
23 kit?

24 A. I put the hairs on a microscope slide and I
25 used that slide to compare to known standards of

1 other people.

2 Q. Mr. Wilson, I'm going to hand you what has been
3 previously marked as State's Exhibit No. 31 and
4 ask you to identify that.

5 A. That's a photograph of the cross section of a hair
6 follicle.

7 Q. I'm handing you State's Exhibit 32. Would you
8 identify that?

9 A. That's a diagram of a hair follicle.

10 Q. I'm handing you State's Exhibit 33, would you
11 identify that?

12 A. That's a diagram of a hair shaft, a human hair shaft.

13 Q. I'm handing you State's Exhibit 34. Identify that
14 please?

15 A. That's a photograph of a comparison microscope.

16 Q. I'm handing you State's Exhibit 35. Would you
17 identify that?

18 A. That's a photograph of an animal hair.

19 Q. I'm handing you State's Exhibit 6, excuse me 36,
20 37, 38, 39, 40, 41, 42, and 43. Would you identify
21 these?

22 A. Those are comparison photo-micrographs of that
23 unknown hair from the victims pubic hair combing
24 compared to a known standard of the defendant's
25 pubic hair.

1 Q. On which side is the unknown hair?
2 A. The unknown hair is on the left side of the
3 photograph.
4 Q. And on which side is the known hair?
5 A. That's on the right side.
6 Q. Now, have you prepared slides of those photographs
7 to aid the jury in understanding what you've done?
8 A. The slides are copies of the photographs we just
9 went through, exact copies of them.
10 Q. Are the photographs fair and accurate copies or
11 fair and accurate photographs of the hair comparisons
12 you've performed? A. Yes, they are.
13 The following proceedings were had in the presence
14 but OUT OF THE HEARING OF THE JURY:)
15 MR. WHITWORTH: We'd offer in evidence
16 State's Exhibits 31 through 43.
17 MR. BROWN: Where is 31?
18 MR. WHITWORTH: It's in there somewhere.
19 MR. BROWN: We have no objection to 34,
20 Judge.
21 THE COURT: I take it 34 is just a
22 photograph of the equipment that is used?
23 MR. WHITWORTH: Yes.
24 MR. BROWN: 35, I object to the relevancy
25 of showing a hair of an animal.

1 MR. WHITWORTH: Once again, that is to aid
2 the jury in understanding the evidence.

3 THE COURT: What is it?

4 MR. WHITWORTH: Photograph of an animal
5 hair.

6 THE COURT: I don't see the relevancy on
7 that.

8 MR. WHITWORTH: Judge, I'm going to ask him
9 to explain the difference between animal hair and
10 human hair and how he sees the difference.

11 THE COURT: Why?

12 MR. WHITWORTH: So he can show the jury.

13 THE COURT: The objection will be sustained
14 as to State's Exhibit No. 35.

15 MR. BROWN: 31 is not part of the evidence
16 in this case. There has been no evidence that any
17 cross section by scalps.

18 THE COURT: What is 31?

19 MR. WHITWORTH: That's a cross section of
20 the scalp. It's to aid the jury in understanding
21 hair and how it grows and it will aid the jury in
22 understanding the evidence in this case, Your Honor.

23 THE COURT: As of right now your objection
24 is going to be overruled. I'll receive it. But
25 that may not be my final ruling. I'll hear some

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more testimony.

MR. BROWN: I understand.

I'm getting out of order here.

32, these are diagrams of hair, I'll assume.

32 is, what is 32?

MR. WHITWORTH: Human hair, head, follicle to aid the jury.

THE COURT: What is the difference between that and this, 31?

MR. WHITWORTH: Judge, that's something I don't know. That's why I'm having the expert.

THE COURT: Don't you think I ought to know before I admit something in evidence?

MR. WHITWORTH: Judge, it would aid the jury.

THE COURT: I don't know that.

I'm going to reserve a ruling on 32 and 33. They may be admissible but I've not heard it yet.

MR. BROWN: Judge, I'm, going to object to 36, 37, 38, 39, 40, 41, 42 and 43 for the reasons that I don't believe that these photographs are in fact a fair and accurate representation of how those hairs look under the slide.

I've got exact copies, supposedly, copies of those same photographs and the colors are completely

1 different.

2 THE COURT: What did the witness just tell
3 me?

4 MR. BROWN: I understand.

5 They gave me exact copies of the same thing.
6 That's number one that you have there. No. 2, they
7 marked these for me. 3.

8 THE COURT: It's proper the way it's
9 presented.

10 MR. BROWN: It's not a fair and accurate
11 representation.

12 THE COURT: I'll give you an opportunity to
13 make inquiry.

14 Are these all the same?

15 MR. WHITWORTH: No. It's different areas of
16 head hair as it proceeds down the hair.

17 (The following proceedings were had IN THE PRESENCE
18 AND HEARING OF THE JURY:)

19 THE COURT: All right. 36 through 43 will
20 be received.

21 34 will be received. 31 will be received
22 subject to further objection. I want to hear some
23 more on 31.

24 (STATE'S EXHIBITS NO. 31, 34, 36 through 43 HAVING
25 BEEN SO OFFERED AND RECEIVED IN EVIDENCE, ARE NOT INCLUDED

1 HEREIN BUT WILL BE FILED SEPARATELY.)

2 Q. (By Mr. Whitworth) Mr. Wilson, I'm handing you
3 31, what is that?

4 A. It's a cross section of the hair follicle.

5 Q. When you say a cross section of the hair follicle,
6 is this actually a photograph in lay terms of --

7 A. The area in which a hair grows from and it's extruded
8 through the surface of the skin.

9 Q. Do you believe that that photograph would aid the
10 jury in understand the evidence in this case?

11 A. I think it would help them understand how hair
12 grows and how it fares along it's entire length.

13 MR. WHITWORTH: At this time, Your Honor,
14 I'd offer in evidence State's Exhibit 31.

15 THE COURT: I've received it.

16 Any further objection?

17 MR. BROWN: No, Judge.

18 THE COURT: All right.

19 Q. (By Mr. Whitworth) I'm handing you State's Exhibit
20 32, Mr. Wilson, what is that a diagram of?

21 A. It's a diagram of three hair follicles in different
22 stages of growth.

23 Q. And would that aid the jury in understanding the
24 evidence in this case?

25 THE COURT: I don't think the criteria

1 is whether it would help him, I think it's whether
2 it --

3 Q. (By Mr. Whitworth) Do you think this would aid the
4 jury in understanding the evidence?

5 THE COURT: What did I just say?

6 Q. (By Mr. Whitworth) I'm handing you State's Exhibit
7 33, what is that?

8 A. Diagram of a hair shaft.

9 Q. Can you explain the relevance of that diagram?

10 A. That would aid me in explaining and answering
11 questions concerning the structure of a hair shaft.

12 MR. WHITWORTH: Your Honor, at this time
13 I'd offer in evidence State's Exhibits 32 and 33.

14 THE COURT: Mr. Brown?

15 MR. BROWN: I don't see the relevancy and
16 I object on that basis but --

17 THE COURT: I'm going to receive them for
18 the limited purpose, for whatever benefit the jury
19 receives out of it.

20 (STATE'S EXHIBIT NOS. 32 and 33 HAVING BEEN SO
21 OFFERED AND RECEIVED IN EVIDENCE, ARE NOT INCLUDED HEREIN
22 BUT WILL BE FILED SEPARATELY.)

23 Q. (By Mr. Whitworth) Mr. Wilson, have you prepared
24 photographic slides of all those exhibits that you
25 have before you?

1 A. Yes, I have.

2 MR. WHITWORTH: Your Honor, at this time
3 I'd like to turn on the slide projector.

4 Q. (By Mr. Whitworth) Mr. Wilson, I have a few more
5 questions I need to ask you. Did you have occasion
6 to obtain known hair standards from, supplemental
7 known standards from the defendant, Daniel Jones?

8 A. Yes, I did.

9 Q. Are these pubic hair standards?

10 A. Yes.

11 Q. I hand you State's Exhibit 44. Is that the package
12 that you obtained that had known standards of
13 Daniel Jones in it?

14 A. Yes.

15 Q. I hand you State's Exhibit No. 45. What is that,
16 sir?

17 A. That's the actual microscope slide of the pubic hair
18 combing from the victim that bears the unknown pubic
19 hair.

20 Q. I'm handing you State's Exhibits 46, 47, 48. What
21 are those, sir? And State's Exhibit No. 49.

22 A. Those are all pubic hair standards from Mr. Jones.

23 Q. How do you know those are the ones you looked at?

24 A. Well, they still bear my identifying marks and
25 initials and date that I prepared the slides.

1 MR. WHITWORTH: Your Honor, at this time,
2 we'd offer in evidence State's Exhibits 44, 46, 47
3 and 48. And State's Exhibit No. 45, Your Honor.

4 MR. BROWN: No objection.

5 THE COURT: Those exhibits will be received.

6 (STATE'S EXHIBITS NOS. 44 through 48 inclusive,
7 HAVING BEEN SO OFFERED AND RECEIVED IN EVIDENCE, ARE NOT
8 INCLUDED HEREIN BUT WILL BE FILED SEPARATELY.)

9 Q. (By Mr. Whitworth) Now, Mr. Wilson, would you please
10 turn on the slide projector, please?

11 A. (Witness complies.)

12 Q. And if you could focus that in for us.

13 MR. WHITWORTH: Judge, would it be possible
14 to turn off a row of lights?

15 THE COURT: It's right behind you there.

16 Q. (By Mr. Whitworth) Mr. Wilson, explain to the jury
17 what this is a photograph of.

18 A. That's a slide of State's Exhibit No. 31 which is
19 a cross section through a couple of hair follicles.
20 Down toward the bottom in the red area shows where
21 the hair is actually growing and it's extruded up
22 through that hair follicle until it reaches the
23 surface of the skin and also shows the number of
24 oil glands that aid in the hair growing.

25 Q. Next photograph, please. What is that?

1 A. This is a diagram portraying essentially the same
2 thing, however, it shows the hair follicles in three
3 stages of growth. Hair grows for a period of time
4 and naturally goes through a recession in which the
5 hair would naturally fall out and that hair follicle
6 to the extreme right simply portrays a hair follicle
7 in which the hair sticking out of it is ready to
8 fall out. It wouldn't take any particular force
9 to remove it. It could fall out on its own or
10 perhaps with a little abrasion could cause that hair
11 to fall out.

12 Q. Is that why we frequently find hair in our beds?

13 A. That's why hair is very common evidence, yes.

14 Q. Now, would you go to the next slide, please? What
15 is that, sir?

16 A. It's a diagram of a typical hair shaft and it shows
17 the number of the features diagrammatically that one
18 would look at in making a hair comparison.

19 Q. What features are in this diagram?

20 A. Starting on the outside of the hair shafts, there is
21 a thin clear, hard covering to all hair that really
22 gives the hair strength and it's very thin and it's
23 in a scale like pattern. We call that the cuticle
24 and if you look on the right where the cuticle margin
25 is labeled, those tips of those cuticle point in the

1 direction of the tip of the hair. As I said, all
2 of the cuticle are clear and it's one of the features
3 one looks at in hair comparisons but the thickness of
4 that varies between people.

5 Q. Proceed to the next slide.

6 A. On down is labeled the medulla and that's a structure
7 that may be present in the hair, runs down the center
8 of the hair shaft. It may appear as a black
9 structure, if it's air-filled or it may appear as a
10 clear structure if it's filled with fluid and it may
11 not be present and in humans, it's less than a third
12 the diameter of the total hair whereas in other
13 animals it would be much larger than a third of the
14 diameter of the hair shaft and the structure of that
15 medulla varies a great deal between individuals from
16 being totally absent to continuous along the shaft
17 and it's -- margins can vary a great deal. Then in
18 between the medulla and cuticle is the cortex of the
19 hair and that's the vast majority of the hair, where
20 the pigment is contained and that's what gives the
21 hair it's color and size. The diameter of the hair
22 could vary a great deal depending on how much cortex
23 is present and probably a primary feature in hair
24 comparisons is the color of the hair shaft caused
25 by the pigment, how the pigment granules are shaped

1 and the way they're distributed, longitudinal
2 along the hair and across the diameter of the hair
3 and those are the primary features of the hair shaft.
4 Q. Did you perform a comparison in this particular case?
5 A. Yes, I did.
6 Q. Were you able to tell whether or not the unknown
7 hair was a Caucasian hair or Negroid hair?
8 A. It had the typical traits of Negroid hair.
9 Q. How did you know that?
10 A. Primarily from the way the pigment is structured.
11 There is really two different types of pigment in
12 people and very black pigment, that's clumped
13 and making the hair very dark is a primary feature.
14 In other words, the density of the pigment as well
15 as the overall shape of the hair from the root to the
16 tip.
17 Q. Mr. Wilson, is hair analysis, comparison an exact
18 science?
19 A. No.
20 Q. In other words, can you say that a certain hair came
21 from me?
22 A. No, you cannot identify a person through a hair
23 comparison.
24 Q. What can you say?
25 A. Well, you can see if all of the features are

1 indistinguishable and we depend on those features,
2 how strong the association once made --

3 (The following proceedings were had in the presence
4 but OUT OF THE HEARING OF THE JURY:)

5 MR. BROWN: I object to that answer there
6 on the basis, based on speculation and conclusion.
7 This jury is to determine the significance of any
8 comparison.

9 THE COURT: What is your legal objection?

10 MR. BROWN: Speculation and conclusion
11 and invading the province of the jury. For them
12 to determine significance of his testimony, it's
13 invading the province of the jury.

14 THE COURT: Let me hear his answer after
15 "indistinguishable".

16 (The pending answer was read by the Reporter.)

17 MR. BROWN: First of all, that is not a
18 response to the question he asked.

19 THE COURT: I don't think it is either.

20 After "indistinguishable", he is going into
21 a new area and it's not responsive.

22 Stop and ask another question.

23 (The following proceedings were had IN THE PRESENCE
24 AND HEARING OF THE JURY:)

25 THE COURT: Sustained. Yes.

1 The record will reflect it was sustained.

2 Q. (By Mr. Whitworth) Now, Mr. Wilson, did you have
3 occasion to examine a hairbrush in this case also?

4 A. Yes, I did.

5 Q. And what was your conclusion with regard to that
6 hairbrush?

7 A. There was some very fine diameter, very long and
8 very dark hairs. A lot of them present in the
9 hairbrush.

10 Q. Did you determine what type of hairs those were?

11 A. They were head hairs.

12 Q. Could you tell whether they were Caucasian or
13 Negroid hair?

14 A. I could not be sure, no.

15 Q. Were there any short hairs in that brush?

16 A. Well, the hairs are primarily very long. There
17 might have been some short fragments present but
18 I did not remove all of the hairs from the brush.

19 Q. Now, Mr. Wilson, would you go to the next slide,
20 please?

21 A. (Witness complies.)

22 Q. What is this, sir?

23 A. It's a photograph of a comparison microscope which
24 is the primary instrument that one would use to
25 make a hair comparison and it shows essentially,

1 comparison microscope is two separate microscopes
2 that's bridged together with an optical bridge so
3 that one can see the hair on both separate
4 microscopes at the same time through one set of
5 oculars and then above those oculars is a camera,
6 an automatic exposure camera and that control panel
7 to the right simply controls that camera so you
8 can photograph whatever it is you're looking at.

9 Q. Is that how you took the photographs in this case?

10 A. Yes.

11 Q. Which side do you put the unknown hair on and which
12 side do you put the known hair on?

13 A. Unknown on the left side and the known sample
14 on the right.

15 Q. Did you compare the known hair standard in this case
16 of Daniel Jones to the unknown standard from the
17 public hair combing of [REDACTED]?

18 A. Yes.

19 Q. What did you find?

20 A. I found that all of the features in this unknown
21 hair were indistinguishable from the hair of Mr.
22 Jones.

23 THE COURT: Let me interrupt, Counsel,
24 just a minute, will you? I have a logistic matter
25 to take care of.

1 (The following proceedings were had in the presence
2 but OUT OF THE HEARING OF THE JURY:)

3 THE COURT: I ordered food for the jury
4 and they're going to have it at noon and it's
5 pizza. Now, if we're not going to be able to get
6 through about that time, I'll delay the delivery.
7 How much longer are you going to take? I'd just
8 as soon not interrupt.

9 MR. WHITWORTH: I can be done by noon.

10 THE COURT: How long do you think you'll
11 take?

12 MR. BROWN: About thirty or forty minutes.

13 THE COURT: All right.

14 MR. WHITWORTH: Actually, I don't think I'll
15 take that long, Judge.

16 THE COURT: I'm going to delay delivery
17 until 12:30. It's the type of food you don't want to
18 sit around and get cold.

19 MR. BROWN: If you order it now --

20 THE COURT: They've already told us it will
21 be here at noon but I think I can delay it. If I
22 can't, I'm just going to have to stop.

23 MR. BROWN: I don't have a problem if we
24 stop at noon because I have something else I had
25 planned to do at noon because I just anticipated

1 we'd probably stop around noon so that would be
2 fine with me if we stop and come back.

3 MR. WHITWORTH: I'd just as soon let the
4 witness continue, Judge.

5 THE COURT: What do you need to do at noon?

6 MR. BROWN: I've got, this is a client
7 that I had a problem that I have to get straightened
8 out, a client that has not been able to catch up to
9 me in the last couple of weeks, in a personal injury
10 matter and I want to take care of this immediate
11 problem and I told them -- They're just expecting a
12 call.

13 THE COURT: Can't Mr. Fields make the
14 call and say you'd be back in touch later?

15 MR. BROWN: Yes, he can but I had planned
16 on doing it. I don't have a problem stopping at
17 noon, the State does but whatever you decide.

18 (The following proceedings were had IN THE PRESENCE
19 AND HEARING OF THE JURY:)

20 THE COURT: You may proceed.

21 Q. (By Mr. Whitworth) Mr. Wilson, what was your
22 conclusion in this case?

23 A. That that unknown pubic hair from the victim's
24 pubic hair combing was indistinguishable from
25 those of Mr. Jones.

1 Q. Do you characterize that as a match?

2 MR. BROWN: I object, it's leading.

3 THE COURT: Sustained.

4 Q. (By Mr. Whitworth) What do you characterize
5 that as, sir?

6 A. I used to say that was a hair match until I
7 understood people didn't understand what that
8 meant.

9 MR. BROWN: Judge, I'm going to object
10 to the narrative testimony and he, also
11 non-responsive to the question, too. He is going
12 to explain now what he has changed from match to
13 indistinguishable.

14 THE COURT: Read the question.

15 (The pending question and answer were read by the
16 Reporter.)

17 THE COURT: Objection will be sustained.

18 Q. (By Mr. Whitworth) Why do you characterize it as
19 indistinguishable now?

20 MR. BROWN: Same objection, Judge.

21 THE COURT: Same ruling.

22 Q. (By Mr. Whitworth) Do you now characterize it as
23 an indistinguishable?

24 A. Yes.

25 Q. Have you done so in this case?

1 A. Yes.

2 Q. Was this comparison test difficult?

3 MR. BROWN: Objection, leading.

4 THE COURT: It is but I'm going to
5 overrule.

6 Let's get there.

7 Q. (By Mr. Whitworth) Was this comparison test
8 difficult?

9 A. Yes.

10 Q. Why is that?

11 A. Well, most hair comparisons are difficult and
12 because it's a feature in the unknown standard
13 that made this one exceptionally difficult.

14 Q. How much time did you spend on this particular
15 comparison?

16 A. Analysis, comparison at least, eight or nine hours.

17 Q. When you say eight or nine hours, is that eight
18 or nine hours at the microscope?

19 A. That would be eight or nine hours actually looking
20 into the microscope. In reality, it took place
21 over several days.

22 Q. Explain the value of a comparison test.

23 A. Well, first of all, you could obviously, positively
24 eliminate somebody as a contributor of a hair and
25 often times that can be a rather rapid exam and you

1 can also include a person into a group of possible
2 contributors.

3 Q. How many characteristics do you compare?

4 A. Well, I really don't know how to count those. All
5 of the things you can see in one hair, you must see
6 in the other.

7 Q. Did you find anything unusual about this hair?

8 A. Yes.

9 MR. BROWN: I object to that, Judge.

10 (The following proceedings were had in the presence
11 but OUT OF THE HEARING OF THE JURY:)

12 MR. BROWN: I'm going to object to the
13 characterization of this finding that he is about to
14 testify to as being unusual for the reason that
15 according to the U.S. vs. Fry has to be based upon
16 finding and conclusions that have been generally
17 accepted in this area of expertise.

18 MR. WHITWORTH: And I'll establish that,
19 Judge.

20 THE COURT: Why don't you ask questions
21 without editorializing. Why don't you just ask him
22 what the results of his examination were.

23 MR. WHITWORTH: All right.

24 (The following proceedings were had IN THE PRESENCE
25 AND HEARING OF THE JURY:)

1 THE COURT: The objection will be sustained.

2 Q. (By Mr. Whitworth) What were the results of your
3 examination, Mr. Wilson?

4 A. That all of the features I saw in the unknown hair
5 were also present in Mr. Jones' hair.

6 Q. Can you explain that please?

7 A. It means that everything that could be perceived
8 along the entire length of that unknown hair from
9 root to tip and all of the way from tip to bottom is
10 the one, that is the one that is focused through the
11 hair, one could find those identical features to the
12 point that one could not tell the difference between
13 the two hairs, and Mr. Jones' hair.

14 Q. Would you go to the first photograph, please, sir?

15 A. (Witness complies.)

16 Q. Would you please explain what this is a photograph
17 of?

18 A. Well, it's a comparison photograph of both the
19 unknown hair on the left and the sample of Mr. Jones'
20 hair on the right, down very close to the root end of
21 both of those hairs. The photograph was taken at
22 approximately one hundred magnification.

23 Q. What similar characteristics do you see in this
24 photograph between the unknown hair and the known
25 hair?

1 A. In making a hair comparison, one wants to see that
2 the point you're comparing, the diameter of the hair
3 is the same and that the color of the hair, the
4 way the pigments are arranged and the cutical,
5 would appear to be a continuous hair.

6 Q. Any specific characteristics within that photograph
7 that are similar other than what you've mentioned?

8 A. Everything that you can see. The same general types
9 of features are exhibited in both hairs.

10 Q. What is this a photograph of?

11 A. This would be a little bit further up the hair shaft.
12 This was taken at two hundred magnifications is why
13 the hair looks larger and again it just shows how the
14 hair varied from the root as we're going toward the
15 tip and that the way the features are distributed
16 among both hairs are the same.

17 Q. What are the dark spots that we see in the photograph
18 on each side?

19 A. Well, they're dark areas because they're filled with
20 gas or air as opposed to being a liquid or solid and
21 that's where it appears to be dark and down toward
22 the root of most hairs, one will see a structure
23 called cortical fusi and that is the structure that
24 produces as the hair is growing and dries out, as the
25 hair proceeds to be extruded from that hair follicle

1 and those structures become dark. They're so large
2 and numerous here that they are essentially void
3 areas within the cortex of the hair.

4 Q. And is there a scientific term for this void in
5 the cortex?

6 A. Well if they're arranged in a particular pattern,
7 there is, yes.

8 Q. What is that?

9 A. If it's arranged in a banded pili annulati.

10 Q. Would you go to the next slide please?

11 A. (Witness complies.)

12 Q. What is that a photograph of?

13 A. That's just again further up the hair shaft of the
14 same hairs and one hundred magnification and shows
15 the features of both hairs.

16 Q. Can you see the medulla in that particular slide?

17 A. Well, I don't think there is anything there that
18 you'd call a medulla, although there is some dark
19 areas in the middle of the hair and extending to the
20 upper portion of that photograph, has a number of the
21 big black spots, being voids, and the pigment being
22 more condensed.

23 Q. These voids are they common?

24 MR. BROWN: I object to it.

25 THE COURT: Overruled.

1 A. Not particularly, no.

2 Q. (By Mr. Whitworth) How often do you see voids in the
3 cortex, in your experience?

4 MR. BROWN: May we approach the bench?

5 THE COURT: You may.

6 (The following proceedings were had in the presence
7 but OUT OF THE HEARING OF THE JURY:)

8 MR. BROWN: Judge, I object to that on the
9 basis, again, on the Fry case. He's not shown that
10 this is a -- let me get the cite.

11 THE COURT: All right.

12 MR. BROWN: I want to get the language right
13 here. In Fry v. U.S., Judge, again, the evidence
14 which is, that is derived from the scientific is
15 admissible only if that -- has achieved -- in the
16 community.

17 My objection is that he is about to testify
18 about how frequently do you find voids in the cortex.
19 There has been no proper foundation laid for him to
20 give any testimony in this area in terms of the
21 frequency that you find these particular
22 characteristics in a particular hair, in the hair
23 sample. There is no scientific basis.

24 THE COURT: The question was how many times
25 do you find voids in the cortex. I understood that

1 to be the question pertaining to this witness, his
2 own personal examination and not a generic view.

3 And on that assumption, I'm going to
4 overrule your objection but I expect the answer to
5 be in the experience of this witness.

6 MR. WHITWORTH: Yes.

7 THE COURT: Okay.

8 (The following proceedings were had IN THE PRESENCE
9 AND HEARING OF THE JURY:)

10 THE COURT: To the extent it's not, I'll
11 change my ruling.

12 Q. (By Mr. Whitworth) Mr. Wilson, how many times do you
13 find voids in the cortex of hairs that you examine?

14 A. I think no more than maybe one or two percent of
15 the time.

16 Q. Are voids in the cortex present in this particular
17 comparison?

18 A. Yes.

19 Q. Go to the next slide, please. What is this a
20 photograph of?

21 A. This is again, further up the hair shaft, now, of
22 the same two hairs and at this time there is a
23 rather extensive amount of black area which is
24 voids within the hair, itself.

25 Q. When you're referring, you say the black areas,

1 what are you referring to, the lower part of the
2 photograph?

3 A. Yes.

4 Q. Go to the next slide, please. Once again, what
5 is this a photograph of?

6 A. The unknown hair on the left and Mr. Jones' hair
7 on the right and this is again, further up the
8 hair shaft in the previous photos.

9 Q. Is the dark part the medulla?

10 A. No.

11 Q. How do you know that?

12 A. Well, medulla runs down the approximate center of
13 a hair shaft and is in the case of humans, less than
14 a third of the diameter of the hair shaft and
15 usually less than that but at the most, no more than
16 a third of the diameter of the hair shaft.

17 Q. Go to the next photograph, please? What is this,
18 sir?

19 A. Again, the same two hairs, further up the hair shaft.
20 In this particular case, you can see a medulla, that
21 central dark structure running down the center of
22 the hair except it's somewhat difficult to perceive
23 in the lower half because of the number of voids in
24 the hair that make it difficult to distinguish the
25 medulla from the void area.

1 Q. You've testified that you see voids in the cortex of
2 the hair, approximately one to two percent of the
3 time. How often did you see voids in the, excuse
4 me. Strike that. How often do you see hairs with
5 voids in the cortex to the extent you see in this
6 comparison?

7 MR. BROWN: Judge, the same objection, to
8 this testimony here.

9 THE COURT: With the assumption from your
10 question that it's this witness' personal
11 observation, the objection will be overruled.

12 Q. (By Mr. Whitworth) Go ahead.

13 A. I've not see this particular feature more than one
14 or two times in my career.

15 MR. BROWN: Judge, may we approach the
16 bench, please?

17 THE COURT: You may.

18 (The following proceedings were had in the presence
19 but OUT OF THE HEARING OF THE JURY:)

20 MR. BROWN: Judge, the obvious import of
21 this testimony is trying to establish, although not
22 state in quantative terms, just establishing some
23 statistical figures and that's the essence of what
24 they've done. They're showing he has done it
25 thousands of times and only seen it one or two times.

1 THE COURT: Mr. Brown, it's permissible as
2 to this witness' observations and experiences. As
3 I understand, he is not testifying as to nationwide
4 or anything, he is just giving his own personal
5 observations and I think that's permissible and if
6 you're making an objection which I have not heard
7 yet, the objection is overruled.

8 MR. BROWN: The other objection, it's not
9 relevant as to how often he has seen that.

10 THE COURT: Objection is overruled.

11 (The following proceedings were had IN THE PRESENCE
12 AND HEARING OF THE JURY:)

13 Q. Let's go to the next slide, sir. What is this a
14 photograph of?

15 A. This is the same two hairs, unknown one on the left
16 and now this is getting very close to the type of
17 the hair and you can, the dark area and the upper
18 portion is the void area.

19 Q. Go to the next slide. What is this?

20 A. This is the same two hairs again, very near the tip
21 of the hair.

22 Q. And is there anymore slides?

23 A. No.

24 MR. WHITWORTH: If we could turn the lights
25 back on, Your Honor.

1 Q. (By Mr. Whitworth) Mr. Wilson, have you studied this
2 characteristic you've described as voids in the
3 cortex?

4 A. Yes.

5 Q. And have you prepared any article or written any
6 literature on this particular characteristic?

7 A. I have, yes.

8 Q. Have you read anything about this?

9 A. Yes.

10 Q. Where did you learn about this particular
11 characteristic?

12 A. Well, I don't recall. I've read a number of
13 articles and books that have discussed the traits
14 and I've also, in the past, seen a hair with those
15 features that was unusual enough I felt that
16 something should be written on it.

17 MR. WHITWORTH: I have no further questions.

18 Thank you.

19 MR. BROWN: Do you want to continue on?

20 THE COURT: Yes.

21 CROSS-EXAMINATION BY MR. BROWN:

22 Q. Mr. Wilson, I believe one of the last things you said
23 was that with respect to this feature of void in the
24 cortex was that you had seen it before, correct?

25 A. Yes.

1 Q. And you read about it before some place, is that
2 correct?

3 A. Yes.

4 Q. But you don't recall where, is that correct?

5 A. Oh, no, I recall where I read about it. It was
6 when I was unsure of.

7 Q. Where did you read about this particular
8 characteristic as voids in the cortex?

9 A. Well, there is a handbook that's published by the
10 F.B.I. Academy on Forensic Hair Comparisons, that has
11 a couple of photographs of the characteristics and
12 discusses it. There's also a, I guess, a text book
13 or actually, proceedings, the first International
14 Symposium that has a very nice chapter on the
15 subject. There is some individual papers actually
16 written by the same lady who wrote the chapter in
17 that book, I have copies of. There are a couple of
18 papers that also discuss it.

19 Q. As a matter of fact, you referred me to one of those
20 articles, is that correct?

21 A. I believe I did, yes.

22 Q. It's written by Mrs. Vera Price, is that right?

23 A. Yes.

24 Q. Because I asked you, could you refer me to an
25 article that discusses this phenomenon of voids

1 in the cortex, is that correct?

2 A. Yes.

3 Q. And you indicated that there was an article in the

4 first symposium on hair, correct?

5 A. Yes.

6 Q. And you gave me the name of Vera Price, the same

7 person you're talking about, is that right?

8 A. Yes.

9 Q. And isn't it true that this, in this particular

10 chapter that we're talking about here, that you

11 referred me to, Mrs. Price refers to a condition

12 that is called pili annulati, is that correct?

13 A. Yes.

14 Q. Am I pronouncing --

15 A. I'm not an expert on Latin, either.

16 Q. But in any event when she discussed this particular

17 characteristic, isn't it true that she discussed

18 it in terms of being, having a banded appearance?

19 A. That's correct.

20 Q. And she also, and incidentally you didn't find

21 any banded appearance in Mr. Jones' hair standard,

22 did you?

23 A. Absolutely not.

24 Q. And she also, that article also dealt with head

25 hair, is that correct?

1 A. Yes.

2 Q. Isn't it true that, I assume that particular article
3 is part of the basis for you being able to come in
4 here and tell this jury about these voids because you
5 relied upon that article and some other stuff you
6 read in your experience, is that correct?

7 A. I relied on that article to indicate what a void in
8 the cortex was and what it would do to the appearance
9 of the hair, yes.

10 Q. In that article, isn't it true that she also referred
11 to a condition called pseudo-pili annulati, is
12 that correct?

13 A. Yes.

14 Q. Isn't it true that she indicated in that article that
15 both of those conditions were found in blonde
16 hair, isn't that correct?

17 A. Yes.

18 Q. But you're saying that these number one, in these
19 standards you have here, you had no banded
20 appearance, correct?

21 A. That's correct.

22 Q. And you obviously didn't have any blonde hair in
23 here?

24 A. That's correct.

25 Q. And you referred to them as being voids, is that

1 correct?

2 A. Yes.

3 Q. You mentioned that you wrote an article on this
4 particular subject, is that correct?

5 A. Yes.

6 Q. Incidentally, is that the article that you wrote
7 on this, is that a refereed article?

8 A. I believe so.

9 Q. Do you know what a refereed article is?

10 A. Certainly.

11 Q. What is that?

12 A. It's one that is reviewed by one's peers for
13 accuracy.

14 Q. The article that you wrote on this particular subject
15 in fact, was not published, isn't that correct?

16 A. It is in press. I'm not sure if it will actually be
17 presented yet. I have the --

18 Q. Rough draft of it?

19 A. No. I have the actual number, U.S. Superintendent
20 of Documents, publisher's number of it.

21 Q. Now, have you read that article?

22 A. Which article? My article?

23 Q. Yes, your article.

24 A. I wrote it, yes.

25 Q. Have you read it since it has been reviewed by

1 others?

2 A. I haven't read it since I submitted it, no.

3 Q. And when you submitted it, did you give, you gave
4 me a copy of that article, didn't you? I asked you
5 for it and you gave it to me?

6 A. I had a rough draft. I didn't have the actual
7 article.

8 Q. Again, your testimony is that that particular
9 article that you wrote has been accepted and it is a
10 refereed article?

11 A. To the best of my knowledge, yes.

12 Q. Again, where is that published?

13 A. It's going to be published by the U.S. Superintendent
14 of Documents if it hasn't already. I got the
15 number through the U.S. Government bookstore at
16 Bannister Mall.

17 Q. You did?

18 A. Yes, I did.

19 Q. Give me that number then.

20 A. I don't have it with me. I can make a quick phone
21 call and get it from the lab.

22 Q. I'd like you to do that from the lab. I called out
23 there and couldn't get it. They didn't have it
24 there. Would you disagree with that?

25 A. I'm pretty sure I got the number from them. It

1 might be that the F.B.I. sent it to me.

2 Q. It might be that the F.B.I. sent that number to you?

3 A. It maybe, yes.

4 Q. Now, do you know what, obviously, when we're

5 talking about pili annulati and pseudo-pili annulati,

6 when we say void, we're not talking about the same

7 thing, are we?

8 A. No, we're not.

9 Q. We're talking about two different things then, aren't

10 we?

11 A. With respect to banding.

12 Q. With respect to banding. I also notice here that

13 you, you've indicated here that State's Exhibit No.

14 33, which is a diagram of a typical human hair shaft

15 here and what is contained in there? Is there

16 anything in here that refers to voids at all?

17 A. Not, I don't believe so. The cortical fusi would

18 eventually become that.

19 Q. The cortical fusi would eventually become voids?

20 A. It could be.

21 Q. What is this here that says O-void body? What is

22 the difference between a cortical fusi?

23 A. An O-void body is round, essentially plump of

24 pigment, round and larger than normal pigment

25 granules that you'd see.

1 Q. Now, when you, you initially, when you initially
2 examined this evidence, you wrote a report on it, is
3 that correct?

4 A. Yes.

5 Q. And in that report, I believe June 10 is the date
6 on the report, you indicated that this unusual
7 characteristic here was likely caused by voids, isn't
8 that correct?

9 A. I believe that's correct, yes.

10 Q. Now, is that a scientific term, likely caused by
11 voids? Likely?

12 A. I don't know about the scientific terms.

13 Q. Were you sure at the time, June 10, when you
14 examined these hairs, the unknown and known, were
15 you sure at that time that you had voids or likely
16 caused by voids?

17 A. I was as sure then as I am now. I believe that's
18 the likely cause, yes.

19 Q. This characteristic here that you're talking about,
20 where you've shown the, you've told this jury that
21 what is shown in State's Exhibit No. 39, the dark
22 end area in 39 and 40, that's caused by voids?

23 A. Yes.

24 Q. That's what that dark area is caused by? Voids?

25 A. Yes.

1 Q. Didn't you tell me in your deposition, I believe
2 just last Monday, before this past Monday, didn't
3 you tell me that that darkened area was caused by
4 voids and medulla and pigmentation? Did you tell
5 me that?

6 A. It depends what the question was. I could very
7 well have responded that way. Both medulla and voids
8 would essentially be the same. The reason medulla
9 appears to be dark is because it's gas-filled. It's
10 not a substance there. So, dark medulla is a void
11 as well as the voids in the cortex would also appear
12 to be dark. A pigment is not a void. That's an
13 actual physical structure. So, I don't think I
14 said a pigment is a void. Pigment will cause a dark
15 area in the hair though.

16 Q. Did you tell me that the darkened areas in, let's
17 take No. 40, State's Exhibit No. 40. Didn't you tell
18 me that the dark area here was a combination of
19 medulla, pigmentation and void. Wasn't that what
20 your testimony was?

21 A. Those three things will all cause dark areas, yes.

22 Q. Didn't you tell me that in Exhibit No. 40 that the
23 darkened area that is shown here below, on the bottom
24 side of this photograph here was a combination of
25 those three things?

1 A. That is true, yes.

2 Q. So, are you saying that the, let me ask you this.

3 A black person's hair, does it have the same

4 structure as a white person's hair?

5 A. Yes.

6 Q. So, is it shaped, the circumference of it, is it the

7 same? Is it round or flat or what?

8 A. Usually a black person's hair is going to be more

9 flattened, more ribbon like as opposed to Caucasian,

10 which would be more round.

11 Q. Is the standard of Daniel Jones, were they typical

12 Negroid, as you stated?

13 A. Yes.

14 Q. Now, when you take a, let's say, for instance, if I

15 had a lead pencil and my lead is running through the

16 middle of the pencil?

17 A. Yes.

18 Q. No matter how I turn that and photograph it, you're

19 still going to see the center of the lead piece in

20 the center, is that correct?

21 A. Yes.

22 Q. And let's say for instance, if you took a flat

23 object and you rotate that object and photograph

24 that particular object, trying to get the center

25 of it, isn't it true that whatever is in the middle

1 of that particular flat object may appear to be
2 at the bottom or at the top depending on how you
3 have it positioned, isn't that correct?
4 A. It depends on how you look at it, with a
5 microscope that's not going to be correct.
6 Q. When you photograph it, it's going to be correct,
7 isn't that true?
8 A. Yes.
9 Q. When you show these photographs here, showing
10 this dark portion of his hair, being on the
11 bottom, that's because of the way you took the
12 photograph, isn't that true? The way the hair
13 was positioned on the slide when you took the
14 photograph?
15 A. That's true, yes.
16 Q. So, this dark center here, that this dark line
17 here could very well be in the middle of that
18 hair, isn't that true?
19 A. That is not true, absolutely not. One can tell
20 that very easily when focusing through a hair
21 with a microscope that has a shallow depth of
22 field, you can focus on that hair and focus down
23 through the hair and you can tell exactly where
24 you are at.
25 Q. These photographs are not really fair and accurate

1 representation of what you saw when you looked in
2 the microscope?

3 A. It's a fair and accurate representation of what
4 I saw at that point when I took that photo. It is
5 not a reproduction of the entire hair comparisons
6 which goes from root to tip and top to bottom as
7 I explained. It would take a motion picture in
8 several hours in length to show that.

9 Q. My question to you is, let's just take for instance,
10 Exhibit 40 again. When you looked at that, when
11 you were looking through your microscope and you
12 decided to take this picture what you see in this
13 photograph here is not the same thing you saw through
14 your microscope, is it?

15 A. That's the same thing I saw through my microscope.

16 Q. Are you saying this dark surface here was on this
17 particular hair here, was at the bottom of it, of
18 that particular hair?

19 A. No, that photograph is focused at approximately the
20 middle of the hair shaft and not at the top or
21 bottom but in the middle of the hair shaft and as
22 I said that's a very dynamic focusing all of the
23 way through the hair and in doing that you can tell
24 if you're looking at the middle or top of the hair
25 or something displaced laterally.

1 Q. What you have is photograph number 4 here, marked
2 in the right top and marked as State's Exhibit No.
3 39. Now, again, this shows basically the same thing
4 that is shown in 40 from a standpoint of the dark
5 surface or dark appearance here at the bottom of the
6 photograph, is that correct?

7 A. Yes.

8 Q. Bottom of the hair here?

9 A. Yes.

10 Q. Now, would you look at the very corner of this
11 photograph here and isn't it true that you can see
12 some color that is present at the bottom, right in
13 this location here and is also present at the top of
14 the hair, is that correct?

15 A. Yes.

16 Q. And this black surface here does not come all of the
17 way down to the bottom, is that correct?

18 A. That's correct.

19 Q. Isn't it true that that is present in this fashion
20 because this center here, this dark center here, in
21 fact moves from the center of the hair and as the
22 hair rotates, it appears to be at the bottom when you
23 took the photograph, isn't that true?

24 A. That is not true, no.

25 MR. WHITWORTH: What was the last exhibit,

1 Mr. Brown?

2 MR. BROWN: 39, I believe.

3 (DEFENDANT'S EXHIBIT NO. 3 WAS MARKED BY THE REPORTER
4 FOR IDENTIFICATION.)

5 Q. (By Mr. Brown) Mr. Wilson, I'm going to show you
6 what has been marked Defendant's Exhibit No. 3 and
7 ask you, does that particular photograph demonstrate
8 the basic characteristics that are shown in 39 and
9 40, in terms of the dark area in the hair?

10 A. In parts, I believe so, yes.

11 Q. Does tht photograph depict a heavy, dark area in the
12 middle of the hair and then as it continues it then
13 ends up on the bottom portion of the hair as shown in
14 that photograph?

15 A. Just with regard to this photograph it does, yes.

16 Q. Would you agree that those three photographs together
17 appear to be one continuous hair?

18 A. It would appear to be.

19 MR. WHITWORTH: Mr. Brown, may I see the
20 photograph, please?

21 MR. BROWN: I think you've seen it before.

22 At this time, I'd offer in evidence
23 Defendant's Exhibit No. 3.

24 MR. WHITWORTH: No objection.

25 THE COURT: It will be received.

1 (DEFENDANT'S EXHIBIT NO. 3 HAVING BEEN SO OFFERED AND
2 RECEIVED IN EVIDENCE IS NOT INCLUDED HEREIN BUT WILL BE
3 FILED SEPARATELY.)

4 Q. (By Mr. Brown) Mr. Wilson, with respect to
5 Defendant's Exhibit 3, is it your testimony that,
6 let's take the first photograph here, okay? What's
7 shown in the first photograph here? The dark area
8 that appears in the middle here, is that the medulla?

9 A. That's a good possibility.

10 MR. WHITWORTH: Mr. Brown, let me ask you,
11 is this the same one?

12 MR. BROWN: Yes.

13 Q. (By Mr. Brown) And as we continue on to photograph
14 number 2, is that the medulla that follows and
15 traces over in photograph number 3, the dark area?
16 Does that demonstrate the medulla?

17 A. I wouldn't know without examining the hair. It's
18 a possibility. I think it's as equally possible it
19 is not. As I say, you have to focus all the way
20 through the hair to know what you're looking at.

21 Q. You're saying it's possible that photograph,
22 Defendant's Exhibit 3, does in fact reflect a hair
23 shaft with the medulla that's thick in the middle and
24 coverings on it's end up on the bottom portion of
25 the hair as shown on that photograph?

1 A. I can't say that without actually looking at the
2 hair.

3 Q. Is that characteristic shown in that particular
4 exhibit, though, sir?

5 A. There is a dark structure at the bottom of the hair
6 in one photo and in the center of the other, yes.

7 Q. Now, before I forget, the hairbrush that you
8 examined, you indicated that the hair that was in
9 that brush was typically Negroid? Was that your
10 testimony?

11 A. No, I believe I said it was possibly Negroid. I
12 really couldn't identify it as Negroid.

13 Q. Is there any particular reason you couldn't
14 identify it as Negroid hair?

15 A. Lack of definite features.

16 Q. You had how many hairs? I think you indicated
17 there were numerous hairs in that brush?

18 A. It doesn't have to do with the number of hairs. It
19 has to do with the person whose hair it is.

20 Q. It depends on the person whose hair it is?

21 A. Certainly.

22 Q. The prosecutor didn't ask you this but, let me ask
23 you this. When you examined the hairs in that
24 brush, they were in fact completely inconsistent with
25 Daniel Jones' hair, is that correct?

1 A. Absolutely.

2 Q. Now, after June 10, you also got some more hair
3 samples from Daniel Jones, is that correct?

4 A. Yes, I did.

5 Q. And from these hairs that you received from Daniel
6 Jones, the second group that you received, those are
7 the hairs that you used to make this final comparison
8 here, is that correct?

9 A. Yes.

10 Q. Now, would it be fair to say you claim yourself as
11 being an expert in this area, correct?

12 A. I believe so.

13 Q. And, of course, your expertise comes from not only
14 your college degree but primarily from your
15 experience, is that correct?

16 A. Eighty or ninety percent comes from my experience at
17 the lab, yes.

18 Q. And how about what you learn at the academy, the
19 F.B.I. Academy and these various associations?

20 A. I think that's very important, yes.

21 Q. Isn't it true that they require that you get a
22 hundred hairs or so, isn't that correct before you
23 make a comparison?

24 A. Some people do. That's not a requirement.

25 Q. John Wilson, you require what, 25 or 30, is that

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correct?

A. I find that to be a real good number, yes.

Q. Now, when you looked in the microscope and you were examining these hairs, you're not telling this jury that these photographs here and these slides that you've shown, show, take for instance, the, up in the right hand corner of Exhibit 39, you have a number 4 here. You're not saying what's shown in this photograph with respect to Daniel Jones' hair, that particular section of his hair is not the same section of the hair that is shown on here? You're not saying that, are you? It's not the same section of the hair, the location of the particular unknown hair?

A. Yes, it is.

Q. Then that's what you were trying to do, you were trying to compare like areas along each hair?

A. Well, you'd want to compare root to root and tip to tip and middle to middle, not vice versa, obviously.

Q. Well, you, what you were trying to do here, Mr. Wilson, and correct me if I'm wrong, but what you were trying to do here was to try to come in and show this jury how the characteristics that you've indicated were present, make this hair look like

1 a continuous hair. That's what you tried to piece
2 together?

3 A. Essentially so, yes.

4 Q. Now, when you compared what is shown in State's
5 Exhibit 36, on the righthand side, we'll see a
6 root, don't we?

7 A. Yes.

8 Q. And on the lefthand side of this photograph here,
9 over here, we don't see a root in that hair, do we?

10 A. No, sir.

11 Q. Were you comparing like areas at that time?

12 A. Certainly. That's why you don't see the root on the
13 left side.

14 Q. That's why you don't see the root on the left side?

15 A. Right.

16 Q. There is a root on the right side.

17 A. You compare from root to tip. You don't go in
18 opposing directions. So, the root on the hair on
19 the left would essentially, if you could see both
20 hairs, would be under the root on the right because
21 we're going to root ends and root ends to tip and
22 not in opposing directions.

23 Q. So, are you looking, when you're looking through
24 your microscope, what are you seeing? Are you seeing
25 a hair with a root that's the unknown hair and a

1 hair with a root that's the known hair? Are you
2 looking at those at the same time?

3 A. What I'm seeing is just what you see in the
4 photograph there. Now, the center line, the focusing
5 line in these photographs, that vertical line you
6 see, is adjustable on the microscope so that you
7 can scan back and forth the full width of view and
8 you can see that starting all of the way to the
9 right, both roots are together and as I pan to the
10 left, essentially, run down that entire length of
11 hair that's in view at that time.

12 Q. Let me ask you this. With respect to State's Exhibit
13 No. 36. What are the characteristics that you're
14 attempting to show this jury when you saw these
15 two hairs are indistinguishable here?

16 A. That the hairs are the same diameter and color and
17 have the same kind of distribution of pigment,
18 cortical fusi.

19 Q. Look closely at No. 36. Isn't it true that the shaft
20 of the hair on the right, the known hair of Daniel
21 Jones, doesn't it appear at the point where you have
22 the center line here, isn't it true those two hairs
23 appear to be dissimilar in terms of the width of the
24 hair?

25 A. There might be a small dissimilarity in what you see

1 in the photograph.

2 Q. What you see in this photograph. That's a fair and
3 accurate representation of what you saw when you were
4 looking at them?

5 A. Yes, it is.

6 Q. So, there is a dissimilarity there, isn't that
7 correct?

8 A. There is. If you're asking is the diameter of the
9 hair shaft at that time the same, the answer to that
10 is yes.

11 Q. Does it show up the same in this photograph?

12 A. No, they don't.

13 Q. How about at the point where you have the center line
14 here? Let's look at the cuticle that's shown in the
15 photograph here, okay?

16 A. Yes.

17 Q. Are those cuticles the same width?

18 A. They are, yes.

19 Q. Do they appear to be the same width in this
20 photograph?

21 A. Because they're off, they appear to be the same
22 width. They're slightly off center, offset.

23 Q. Okay. Would you mark that where you've just
24 indicated they appear to be the same width, please?

25 MR. WHITWORTH: Which photograph is that?

THE WITNESS: 36.

- 1
- 2 Q. (By Mr. Brown) Circle that, please.
- 3 A. (Witness complies.)
- 4 Q. How about on the bottom portion of that? Does it
- 5 show cuticles that appear to be the same width?
- 6 A. Yes.
- 7 Q. Circle that, please. Your testimony is that those
- 8 two places you've marked here show cuticles that are
- 9 the same width, is that correct?
- 10 A. Yes.
- 11 Q. And these are the, sum of the characteristics here
- 12 that you found that were indistinguishable?
- 13 A. Yes.
- 14 Q. Not a slight characteristic that was different, not
- 15 slightly different at all?
- 16 A. Well, the hairs, you'd never find to be
- 17 superimposeable matches. They're not going to be
- 18 identical with respect to every pigment granule is
- 19 located in the same point and that is not a hair
- 20 comparison. They're not superimposeable matches.
- 21 The features should be the same though.
- 22 Q. One of the things that should be the same is the
- 23 diameter of the cuticle?
- 24 A. That's right.
- 25 Q. That's a thin layer of the hair, that's the outer

1 surface of the hair?

2 A. That' right.

3 Q. And it has scales on it?

4 A. Yes.

5 Q. Isn't it also a procedure whereby you can look at
6 the scales and make some determination from that
7 as to whether or not you have a comparison?

8 A. One can do scale counts at the very root end of the
9 hair.

10 Q. Did you do that in this case?

11 A. I did not actually calculate a numerical, no.

12 Q. Also, when you have the root of the hair, you had
13 a root of the hair of Daniel Jones' hair, right?

14 A. Yes.

15 Q. And you had, there was a root on the hair that came
16 from Sara Stewart's pubic hair combings, is that
17 right?

18 A. Yes.

19 Q. And from the root of the hair, isn't it true, that
20 you can make certain determinations as far as blood
21 type, isn't that correct?

22 A. You can.

23 Q. And was that done in this case?'

24 A. It's not sufficient root to do that with respect to
25 enzymes and proteins.

1 Q. You are saying there was not sufficient root to do
2 that in this case?

3 A. Yes.

4 Q. But you're saying that generally can be done, is that
5 correct?

6 A. If you have a hair follicle you can do that, yes.

7 Q. But you had a root in this case, isn't that correct?

8 A. I'm not sure whether you're actually trying to refer
9 to the follicle the root end which is not groupable.

10 Q. You can't make any type of blood type determination
11 from the root, itself, then?

12 A. No, what you're actually grouping is the tissue
13 around the hair follicle.

14 Q. In this case here the unknown hair just simply had
15 a root and didn't have any tissue around the root?

16 A. No, there was some tissue around the root.

17 Q. But you're saying there was not enough to make any
18 type of determination as to blood type from that
19 particular tissue that you found around the root
20 of the unknown hair?

21 A. You could not determine the enzymes and proteins
22 of the individual from that.

23 Q. Now, you don't need that much, Mr. Wilson, isn't
24 that correct, to be able to isolate some type of
25 blood type or enzyme? You just need a little,

1 small bit, isn't that correct?

2 A. Whatever a small bit means, yes. I'd say a small
3 bit would work.

4 Q. Did you have that in this case?

5 A. No.

6 Q. Now, incidentally, when these photographs that you
7 have here which were apparently the same as the
8 slides, is that correct?

9 A. Yes, the slides were made from the photographs.

10 Q. I'm referring you to Exhibit No. 40. What is it
11 that is significant about that comparison? What
12 are you trying to show the jury there?

13 A. The same as in all of them, that the hairs are
14 the same diameter and color and same features
15 occur in both hair shafts.

16 Q. In the known sample of Daniel Jones' hair, his
17 standard hair on the right side, here, isn't it
18 true that it's different from what is shown on
19 the left side? Don't you see some very dark
20 patches on the left side here and you don't see
21 them on the right side?

22 A. I don't believe that's the case, no. I think that
23 fairly and accurately represents the features on
24 both sides. What we're directly comparing is not
25 each end of that hair but is that the point that

1 you see the fine line down the middle and as I said,
2 there will be variance along the hair shaft. We're
3 not looking at the right and left of the photo,
4 we're looking at the middle of the photo. The hairs
5 are not superimposeable.

6 Q. I'm asking you, you didn't compare, did you see
7 patches of blackness in Daniel Jones' hair?

8 A. Yes.

9 Q. Did you compare that area to another area?

10 A. Yes.

11 Q. Is that shown in that photograph here?

12 A. No.

13 Q. So, what we're looking for, you're saying the
14 important points that the jury should look at is
15 where you have the center line, is that right?

16 A. Essentially.

17 Q. Everybody see the center line in these? That's
18 the important points. That's what they should be
19 focusing on?

20 A. Yes. When you say focusing, I think you're missing
21 the point that the entire hair is not going to be
22 in focus. You can focus a very shallow depth of
23 field with the microscope. So, there will be one
24 specific area that one is looking at. The actual
25 comparison at that point will be from the top of

1 the hair, all of the way down to the bottom and
2 that entire distance cannot be in focus at the same
3 time. So, you have to consider what one is looking
4 at.

5 Q. What are you looking at in Exhibit 41 that's
6 significant and mark that please?

7 A. (Witness complies.)

8 Q. Now, how about the width of the hair, is that
9 significant in that photograph?

10 A. In this photograph, no, I don't think so.

11 Q. They're distinguishable, isn't that correct? The
12 width on the right is distinguishable from the width
13 on the right at the point where you have the center
14 line, isn't that true?

15 A. In that photograph it is but that's not the same
16 thing as the hair comparison, when one is focusing
17 on each cuticle to see if it's the same width. If
18 we were focusing in the middle of the hair, as I was
19 there, to see if the medulla is the same, the other
20 portions of the hair can be out of focus and
21 consequently at that particular time on that
22 photograph not have, along the entire hair shaft is
23 going to be, appear to be identical.

24 Q. How about State's Exhibit 40? What are you
25 attempting to show the jury? What is in focus and

1 what are you concentrating on in making a decision
2 in a comparison on indistinguishable features here?

3 A. Primarily, the dark area in the lower part of the
4 photo.

5 Q. Would you mark that, please?

6 A. (Witness complies.)

7 MR. BROWN: I'm going to be a little while
8 longer. Do you want to break for lunch? Let me
9 go another ten minutes?

10 THE COURT: All right.

11 Q. (By Mr. Brown) Now, Mr. Wilson, I'm showing you
12 State's Exhibit 42. What is in focus and what are
13 you concentrating on there when you were trying
14 to find your indistinguishable features and mark
15 that for us, please?

16 A. Again, the dark void areas in this case,
17 approximately in the center of the hair.

18 Q. And State's Exhibit 38? What is in focus and what
19 are you concentrating on in that photograph in terms
20 of making your comparison? Don't put your pen away,
21 I have a couple of more.

22 A. In this case, almost all of the hair shaft is in
23 focus but primarily the central part of the hair
24 shaft.

25 Q. Let's go, the same thing on 39. What is significant

1 there? Is that what is significant, the area that
2 you just circled in State's Exhibit 39? Have you
3 circled the areas that were significant in terms
4 of you drawing your opinion and conclusions?
5 A. In that particular photograph, yes.
6 Q. Again, what is significant about State's Exhibit 39
7 in the area where you've circled?
8 A. I think the void area.
9 Q. That's it?
10 A. (Nods head affirmatively.)
11 Q. State's Exhibit 37, what was significant about that
12 photograph?
13 A. Primarily the cortex.
14 Q. What about the cortex? What is significant about
15 that?
16 A. That the appearance of both sides, unknown hair and
17 those of Mr. Jones, appear to be the same.
18 Q. Now, you've -- okay. I think we've already done
19 this one. What does that show, State's Exhibit 43?
20 Does that show anything of any particular
21 significance?
22 A. It's the tip end of the hair and again, shows the
23 pigment on each side.
24 Q. So, the jury can understand this, it appears this
25 hair changes colors from when it goes from tip to

1 root?

2 A. That's right.

3 Q. And there is nothing unusual about that?

4 A. That's right.

5 Q. There is more pigmentation toward the end of the

6 hair as the beginning?

7 A. Yes.

8 Q. That is a very common phenomenon?

9 A. Certainly.

10 MR. BROWN: I'd like to stop now.

11 THE COURT: Are you through?

12 MR. BROWN: I've got some more if you want

13 to keep going.

14 THE COURT: How much more?

15 MR. BROWN: Another fifteen minutes.

16 THE COURT: We have fifteen minutes.

17 Q. (By Mr. Brown) Mr. Wilson, incidentally, what

18 you've done here with these photographs, you've

19 actually taken three hairs, is that correct? Three

20 hairs of Daniel Jones, is that correct?

21 A. Yes.

22 Q. You've taken three hairs of Daniel Jones, known

23 standards of Daniel Jones' hair and you've in fact

24 found areas in those three hairs that you found that

25 were similar in that one hair, is that correct?

1 A. Yes.

2 Q. In other words, you've not found one hair out of
3 all those hairs you got from Daniel Jones that
4 match or that is indistinguishable from the hair
5 that was found on [REDACTED]?

6 A. Not from root to tip, that's right.

7 MR. BROWN: Judge, that's all I have at
8 this time.

9 One more question.

10 Q. (By Mr. Brown) Again, you cannot say this unknown
11 hair came from Daniel Jones, is that correct?

12 A. That's right.

13 MR. BROWN: That's all I have.

14 REDIRECT EXAMINATION BY MR. WHITWORTH:

15 Q. Mr. Wilson, what can you say about these unknown
16 standards, excuse me, unknown hair and known
17 standards of the defendant?

18 A. All of the features in the unknown hair one can
19 find those same features in Mr. Jones' hair.

20 Q. Did you base your conclusions solely upon these
21 photographs?

22 A. Oh, no.

23 Q. How many hours did you spend under the microscope,
24 looking at these?

25 A. At least eight hours.

1 Q. Was this a difficult comparison?

2 A. Yes.

3 Q. Why is that?

4 A. Because of the voids in the cortex.

5 Q. During your thirteen years in hair comparison, how
6 often have you seen voids in the cortex to this
7 extend?

8 MR. BROWN: That has been asked and
9 answered.

10 THE COURT: Sustained.

11 Q. (By Mr. Whitworth) Did you use the three known
12 hairs when making comparison to the unknown standard?

13 A. To find all of the features that were present in that
14 unknown hair, to find all of those features in Mr.
15 Jones' hair.

16 Q. Mr. Brown asked you some questions about the brush.
17 Was the hair in the brush long or short?

18 A. Long hair.

19 MR. WHITWORTH: Nothing further.

20 RE-CROSS-EXAMINATION BY MR. BROWN:

21 Q. Didn't you say also, Mr. Wilson, that there was some
22 short hairs in the brush, too? Didn't you tell us
23 that on direct examination?

24 A. I'm sure there probably were.

25 Q. When you made your report on this, the first report

1 you made June 10, you did not indicate in that report
2 anything about them being long hairs, did you?
3 A. I have to look at my report.
4 Q. Look at your report.
5 A. (Witness complies.) No, I didn't.
6 Q. Mr. Wilson, I'm going to again show you what has
7 been marked as State's Exhibit No. 40 and I believe
8 you indicated that the significant feature that's
9 shown in that photograph is what you've circled?
10 A. Approximately, yes.
11 Q. Do you recall telling me that the significant feature
12 about that photograph when I took your deposition was
13 that the diameters were the same in the two hairs?
14 MR. WHITWORTH: I object, it's beyond the
15 scope of redirect.
16 THE COURT: Sustained.
17 Q. (By Mr. Brown) As a matter of fact, Mr. Wilson, with
18 respect to these photographs and the answers you've
19 given about what is significant has changed between
20 last Monday and today, isn't that true?
21 A. No.
22 Q. How about Exhibit No. 5. Has that changed?
23 A. Perhaps I've misunderstood what you're asking. If
24 you're talking about the hair comparison at that
25 point or these particular photographs.

1 Q. I was asking you about those photographs and I took
2 your deposition, I was asking you about what were you
3 looking at and what is shown that is significant in
4 that photograph. That is different from what you're
5 saying today, isn't that true?

6 A. I did not make --

7 MR. WHITWORTH: This is beyond the scope of
8 redirect examination.

9 THE COURT: Haven't we covered this already?
10 Sustained.

11 Q. (By Mr. Brown) Mr. Wilson, when you wrote your
12 article, you spent about two lines on this area of
13 voids or dark patches in that article, is that true?

14 A. That and the photograph, probably.

15 Q. Two lines, you talked about that. You didn't say in
16 that article anything about the number of times you
17 found that. Did you do that?

18 MR. WHITWORTH: Judge, objection. Beyond
19 the scope of redirect examination.

20 THE COURT: Sustained.

21 Q. (By Mr. Brown) Incidentally, did you keep any notes
22 on your similarities and dissimilarities?

23 MR. WHITWORTH: Objection, once again beyond
24 the scope of redirect examination.

25 THE COURT: I can't tell from that question.

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Overruled.

Q. (By Mr. Brown) Did you keep your notes on this?

A. Yes.

Q. Do you have those with you here?

A. Certainly.

MR. BROWN: That's all I have.

MR. WHITWORTH: Nothing further.

THE COURT: May the witness be excused?

MR. BROWN: Yes, sir.

THE COURT: You may step down and be excused.

(Witness excused.)

THE COURT: If things work out right, the food will be here in five minutes.

If you'll please go to the jury room, we'll recess for lunch.

While you're up there, do not talk about the case among yourselves or form or express an opinion.

(NOON RECESS)

(DEFENDANT'S EXHIBITS NOS. 4 and 5 WERE MARKED BY THE REPORTER FOR IDENTIFICATION.)

DETECTIVE THEODORE J. BOWMAN,

having been duly sworn by the Judge, testified as follows:

DIRECT EXAMINATION BY MR. WHITWORTH:

Q. State your name.