C L A U D B E R R Y,

having first been duly sworn to tell the truth, the whole truth and nothing but the truth, was examined and testified as follows, to-wit:

DIRECT EXAMINATION

BY MRS. SHEW:

Q Would you give your name and occupation, please.

A My name is Claud Berry, and I'm a criminolist with the Oklahoma State Bureau of Investigation.

Q What kind of work do you do, Mr. Berry, as a criminolist?

A As a criminolist I am a forensic chemist. I do chemistry and serology, hair identification, fiber identification, for the Bureau.

Q Where is your office?

A Tahlequah, Oklahoma.

Q How long have you worked the OSBI?

A Three years and nine months.

Q Could you give your background?

A Yes, I can. I have a bachelor's degree in chemistry, a bachelor of science degree from Northeastern State College in 1953. I have been a practicing chemist since that time, for twenty-two years with Haliburton Services, Duncan, Oklahoma, technical research and development center, and I have been with the Bureau here three years

and nine months, and that's what I have been doing at that time, and I have been to the FBI Academy for one month's special training on serology, hairs and fibers identification, plus three months at headquarters, Oklahoma City, OSBI Laboratory, under intense training when I first began to work for the OSBI in serology, hairs and fibers identification and trace evidence. I have been to several Southwest Association of Forensic Scientist seminars on serology and hair and fiber identification and have been to four of those, and also one special blood stain identification evidence interpretation school in Oklahoma City for four days.

Q Mr. Berry, what portion of your work would you say is devoted to hair comparisons?

A Well, I will put it this way: approximately ninety percent of cases that come in to our laboratory have to do with hairs and fibers in this case, even homicides, rapes, burglaries, assaults, any of those will have hairs and fibers, approximately ninety percent of the time in the cases.

Q So in almost ninety percent of the cases you are called upon to review and identify hair samples?

A Yes.

Q Would you have any idea of the number of hair comparisons you might have made since you have been working

with the OSBI?

A No, several thousand.

Q Have you ever testified in court in any of those cases that you had examined hairs in?

A Yes, ma'am.

Q Were you qualified as an expert witness?

A Yes.

Q Do you have any idea how many times you have been called to testify?

A Ten, twenty; twenty, twenty-five, rather. Between twenty and twenty-five.

MRS. SHEW: Your Honor, at this time I would ask that Mr. Berry be allowed to testify as an expert witness.

THE COURT: Mr. Berry will so be allowed.

Q Mr. Berry, I know that when most of us look at a hair, we just see a hair, something tiny and thin. Are hairs actually made up of parts?

A Yes, they are.

Q About how many?

A We use fifteen, approximately fifteen identifying features of hairs to identify and compare hair.

Q Will every human hair be made up of those same fifteen or so characteristics?

A Yes, they will.

Q Does that mean that we would all have the same

characteristics but they would be put together in our hair a different way?

A Yes, and also the shape of the hair would be different. Well, that's part of the characteristics, yes.

Q Did you bring some charts with you today to help to explain to the jury those characteristics --

A Yes, I did.

Q -- that you look for? Could you show them to the jury and explain what a typical hair structure looks like?

A I would be glad to. First of all, defining the roots of the hair which is two different types, really. One is mature hair root which is this one here which has no tag on it, which falls off. I mean, everybody is sloughing hairs if you want to put it that way, or hairs are falling out when you are near people, or any place your hairs will be falling out. It doesn't make any difference what age you are, that has nothing to do with it.

When there are pulled hairs, the root has a different shape on it. It has a little tag on the end, just a round identifying feature of a hair that you can see.

Now, these are just drawings so that you might understand when somebody is talking to you about a hair or in my case when I identify points.

THE COURT: You know, it just occured to me that you might be able to set those up on those blackboards on

your right and the Court could see that as well as the jury. If that's not possible, we'll go ahead and continue with --

MR. BERRY: Maybe they can see.

THE COURT: Can you all not see it there just as well.

A Now, the shaft of the hair is made up of these features. The cuticle, which is the outside part, and at times the cuticle either has a space in there, a little light space you can see under the microscope, that's what these are all identified, the only way you can identify hair. You can't just pull somebody's head hair out and look at it without looking at it under a microscope to determine identification or comparison.

The scales, every persons hair has scales, and it's like on fish, and they are round and they overlap just like fish scales, which may seem odd to some people, so when you are talking scaly, that would be one of the identifying features.

Now, the tip end is also a feature, this where it's cut off here, but I don't have it drawn. It can be either a damaged end, when we look at the end, the tip end, a cut end with a razor blade or scissors or using singeing for tips end or shaving, and it will show a different -- the end will be different, and if a person

is doing that all the time, if you find some of their hairs out and make a comparision, that can be one of the identifying features.

The cortex is the main body of the shaft of the hair, the main body.

The medulla is the center part of the hair. Now, in most hair -- not all -- most hair you will see a dark line. It can either be broken up into segments like this, and dark colored, which it looks darker under the microscope, but really it's an air space is what it is. And they are either one solid line, the width is different on some hairs, peoples hair, and like I say, broken down in different segments at times, but some people are solid.

Okay, the proximal end here is the root end which I just showed you here, so if I make it proximal, why, I mean root end, but I'll probably say root.

Pigment granules are small coloring of the hair. I mean, they are in granules, and they are -- can be all together, make it real solid, or in most cases the coloration is in pigment and close together and they are not a real solid color under the microscope.

Okay. The cortical fusi are little spaces, small air spaces in a shaft of the hair.

The ovoid bodies are other black or dark areas. Some people have more, some have less. And it is an

identifying feature, and in the position the way they are. The way they are stationed, if you want to put it, all over the hair shaft.

There are several other -- there are other things which you look for, such as race. We can identify three race types which are caucasian, negroid and mongoloid.

THE COURT: Why don't you come on back down here and use the --

A Well, I'm through with it now. I'm just looking at this, I'm through with it. I just had these written down, which I had fifteen points, and on here I am only showing about eleven of the points as far as that, and these other were explainable. Let's see, race and then the color of the hair, which I didn't mention there, and there is a shape of the hair, whether it's oval, flat or round.

Then the size has something to do with it, not just the shape, the size of the hair varies on different parts of the body, different people's head hair or other parts of the body is a different size.

And the length and any damage done to the hair; sometimes it will be broken. A lot of people have the singed hair or the way it's cut is another part of an identifying feature, and that covers those points which may say something about the hair and what I look for. You

might understand it a little better.

Q Mr. Berry, then is what you are telling the jury, every person's hair is made up of eleven to fifteen items that you mentioned?

A Yes.

Q But this is just a drawing?

A That's just a drawing. This is just a -- that's right.

Q To show the parts. So on a given person, these dark spaces might be narrower or wider?

A That's right.

Q Or these scales might be differently aligned depending on the individual, is that correct?

A That's true.

Q Could you describe for the jury what procedure you go through to make a hair comparison.

A When we have the hair submitted unknown and known hairs, I mount them on a slide. It's about a two and a half inch by three-quarters of an inch slide, about that long, about so wide. We mount them in a mounting fluid we call Coverbond, if it means anything. It's a -- you use it for other kind of mounting medium. It's a mounting medium. Then we put a slide cover over it and let it set. It takes six to twelve hours to set before we look at the slide. Then we put it under a comparison microscope which

has two eye pieces, but two different areas for looking at two different objects and putting them together under the microscope. When you put them together, there is a dividing line you can just join up and look up and see if you can find a comparison. I am sure that maybe you have seen pictures of things being shown, maybe on television sometime. It's just like showing a side by side picture on television. You've seen it, I know, on football. Not playbacks, but they will be showing two different plays, a runner out here and a blocker maybe over here. But it's the say way, you've got a line right down the middle, and you can adjust those and you can adjust the hairs in the known sample, you can adjust it around where you are running through all your hair sample, and the same way with your unknown hairs for a comparison. Now, when I make a comparison, I may join these up under the slide and get a good comparision by just looking at the different views, but we go the whole length of the hair that we have. We don't do just a part of it, because sometimes you can find a part of someone's hair that might be a part, just like a part of another hair that you have, but you want to adjust the microscope and you want to adjust your eyes and you want to run the whole length of comparison on both the known and the unknown hair so that you will know that you are making a

correct comparison and a right comparison.

Q What magnification does your microscope enlarge?

A We run from about one sixty to about three hundred. Actually about a hundred to three hundred powers under the microscope.

Q Does that mean that a hair would be enlarged up to three hundred times?

A Yes, uh-huh.

Q The way we see it?

A And under both sides you use the same magnification because it would kind of defeat your purpose if you had one under here say at a hundred and you run another one up to three hundred, the difference, you have to have them both the same size, because you wouldn't be adjusting to the same size, you wouldn't have the same size hair, or if you say you had a smaller hair and actually the hair was larger in size on one of them and smaller on the other you could run one up to change the magnification of them so it would be almost the same size as the one you are looking at, but that's not the way it's done. You use the same power of microscope on both adjustments.

Q Do you compare the unknown hair with every known hair that you have received from a suspect?

A Yes, with every known -- say if we are running head hair comparisons, we will run the unknown hair with all the

hairs that have been submitted. We ask for twelve to fifteen hairs from over the head area and the pubic hair is the same way, so that we can have more comparison.

Q How many points or characteristics out of the fifteen that you have told about do you find before you determine that a hair is consistent?

A Well, I use the fifteen points. If they don't compare in the fifteen points, we can sometimes say they are similar, they could come from somebody, but it would not be a -- you could not say that they are consistent microscopically unless they have the fifteen points.

Q So before you say microscopically consistent, the unknown hair and the known hairs have to have the same --

A Yes.

Q -- fifteen characteristics?

A Yes.

Q Why are you usually asked to make a hair comparison?

A What was that?

Q Why are you usually asked to make a hair comparison? What's the purpose of it?

A Well, to identify people who have been in the area or possible suspects, possible victims of the crimes or what has happened.

Q Mr. Berry, I would like to call your attention to August 30th of 1982, and ask if the OSBI received some

evidence from this particular case?

A Yes, I did, at Oklahoma City.

Q And do you know where that evidence came from?

A Other than what was a submittal sheet that comes with every piece of evidence that we accept, it has to have the submitters name, the location, the type of offense and the date that it was -- that the offense happened and from the county it come from and the person submitting it, like I say.

Q Do your records show what officer from Ada submitted that evidence?

A Yes.

Q Who was that?

A Dennis Smith.

Q Did that evidence that you received on that particular day include a sexual assault kit?

A Yes, it did.

Q What kind of items were in that, enclosed in that sexual assault kit?

A A glass vial containing whole blood. The assault kit was from the victim. The glass vial containing one vaginal swab. Another glass vial containing another vaginal swab. Another glass vial containing a saliva swab sample, and a glass vial containing a controlled swab for -- in other words, one that had not been used

that we use to make comparisons and make sure that there is not any interfering other chemicals or foreign matter. So we have a clean one, in other words. And number six is another one called an extra swab. It's another to be used for a control swab or in the case of the assault kit can be used by the medical examiner for some other reason. And a white envelope containing pubic combings. Another white envelope containing pulled pubic hair. Another white envelope containing pulled head hair. Another white envelope that contains saliva on a filter paper. We use this for possible analysis of blood type antigen secretion. Another white envelope for right and left hand fingernail clippings. A slide holder that contains vaginal smear slides, and in that, that's all that comes in the sexual assault kit.

Q Did you examine the items then in the sexual assault kit?

A Did I examine them? Yes, I did.

Q What did your examination reveal as to the vaginal swabs and the vaginal smears?

A The vaginal swab was an identified chemical. We tested it and we found acid phosphatase which is a prime constituent of semen. On the vaginal slides we found the spermatozoa on the slides.

Q Were you able to obtain any results from the saliva

sample or the blood or the fingernail scrapings?

A From the blood, yes. The blood sample was human blood type O from Mrs. Fulsom.

Q Were you able to determine anything else of value to the case from the other items you have mentioned, other than the vaginal swabs, other than the hair.

A The public combings contained one hair which was dissimilar to Fulsom hair until we received some other evidence here to make comparison. It was dissimilar to hers. And it was identified under the microscope of a different race.

Q Were you able to tell immediately what race that hair was from?

A Yes.

Q And what was that?

A A negroid race.

Q Did you examine and receive also, Mr. Berry, the bedclothes in that group of evidence that you received that day?

A Yes. Yes, ma'am. Yes, I did.

Q Did you find anything in the bedclothes that was later examined?

A On one of the sheets submitted, which was a bottom sheet, we found one negroid hair that was dissimilar, of course, to the victim's hair.

Q I would like to call your attention to, now, later in January of 198-- or later on in early January 1983 and ask if you received some hair samples, more hair samples from the Ada Police Department?

A Yes, I did.

Q And do you know how you received those?

A They were received in January at the Oklahoma State Bureau laboratory in Oklahoma City on January 28th, and they contained hair samples and saliva samples of Calvin Scott.

Q Mr. Berry, did you make a comparison, then, between the unknown hair that was found in the pubic combing of Mary Ann Fulsom and the known pubic hairs of Calvin Scott?

A Yes, I did.

Q Could you tell the jury how you did that comparison?

A I did it the same way as I explained a while ago. Mounted the unknown hairs and the known hairs of Calvin Scott. The unknown hairs from the bedclothes and from the pubic combing, they were already mounted. And I mounted the known head hair and known pubic hair from Mr. Scott. These were compared to the unknown hairs I had identified as negroid, and identified that one from the pubic combing was consistent with the microscopic characteristics of pubic hairs of Mr. Scott. And the bottom sheet hair was a head hair which was microscopically

consistent to one head hair from Mr. Scott.

We had twenty-five head hairs submitted from Mr. Scott which were mounted and made the comparison with, and sixteen head hairs -- sixteen pubic hairs from Mr. Scott made the comparison with those, of the one unknown hair.

Q So then what was your final finding, your final determination?

A Well, it was that they were consistent. We found the pubic hair was consistent to Mr. Scott's pubic hair and that the unknown hair on the bed sheet was microscopically consistent to Mr. Scott's head hair.

Q Mr. Berry, how unique is hair to an individual?

A How do what?

Q How unique is hair to a particular individual?

A I didn't hear you too well.

Q How unique is hair to a particular individual?

A How unique? Well, there has been one man who has made --

Q Let me ask you this just in this way. Do you, in your experience, do you know if two people have ever been known to have hair alike?

A With comparison of other criminolists, we have not, which is not -- hairs are not like fingerprints. Hairs are not any way like fingerprints except for identifying features. The criminolists that I have known and talked to,

even some of Mr. Stone, Dr. Stone out of Ft. Worth, I. C. Stone, have never found a hair of two people the same. They are not saying that there would be, but there have not been any found that are.

Q And in your experience, then, have you ever come across two people with the same hair characteristics?

A No, I have not.

Q Do you know whether or not, Mr. Berry, there have ever been any studies done as to the probabilities of finding another person with hair like ours, or --

A Well, there is one gentleman out of Canada, his name is B. D. Goday, he made a study. He's the only one that has made a study that's been published, and he has found that head hair, one person in forty-five hundred would have a chance of -- in other words, identification of one hair to -- I mean, one person in forty-five hundred may have features of hair comparison in head hair. Now one in eight hundred in pubic hairs. That's his results. That's the only one I have been able to find who has ever come up with any results with figures. Others have made statements on theory, but they haven't made any practice, or made any study.

Q Would he have given, or would there be any number type odds to the probability of the hair found on May Ann Fulsom's bottom sheet and the hair, unknown hair found in

her pubic combings, both belonging to anyone other than the defendant, Calvin Scott?

A His hair, I would say this: his studies were made on caucasian hair, I believe. In this case having two hairs identified, two hairs of different kind, I mean, head hair from one person would be quite large, I would say, I would not give a figure. It would be quite large.

MRS. SHEW: I have no further questions.

THE COURT: Mr. Edwards.

CROSS EXAMINATION

BY MR. EDWARDS:

Q The sexual assault kit that you received back in August of '82, it contained -- everything contained in there came from the crime scene or from -- excuse me, let me rephrase that. Everything you received either came from the sexual assault kit or from the crime scene, is that correct?

A Yes.

Q Okay. You received no other hair or anything then until January of '83, is that right?

A Yes, sir.

Q What did you receive in January of '83?

A Well, I didn't receive anything until in March -- January, March, April -- April of '83, we picked up the

evidence from the Oklahoma City laboratory to do the -- we picked up several cases. They were backlogged quite a bit, so we picked up several cases to work and that's when we picked up this case and it was transported to our laboratory.

Q What was contained in that?

A Okay. Hair samples and saliva samples from Calvin Scott.

Q Head and pubic hair samples?

A Yes.

Q From Calvin Scott, and saliva samples?

A Yes.

Q Later on, I believe in May or June, you received a blood sample from Calvin Scott, as well?

A Yes, that was directly mailed to us, directly.

Q Now, you testified that from the evidence submitted back in August, and the evidence you received in April, there was two hairs that were microscopically consistent with the defendant's, is that correct?

A Yes, sir.

Q Mrs. Shew asked you, that no two people, no hairs are identical, is that right?

A Now, wait a minute. What are you saying?

Q I believe she asked you that no two hairs are perfectly identical?

A No, I didn't say that. I don't believe I said that.

Q What did you say?

A No. She asked me about comparison of people's hair. I mean, separate people.

Q Okay, no two people's hair, then, are identical?

A That is right.

Q -- as far as you can determine. You can say that those hairs were microscopically consistent, is that right?

A Yes, sir.

Q You can't say they were the same, is that right?

A Well, I can't say that-- they are not like fingerprints is what I said earlier.

Q Okay, now, fingerprints, you could say, this is a fingerprint of this person?

A Yes.

Q But hair is not quite like that. You can only say it's consistent, is that correct?

A Microscopically consistent.

Q Based on those points you went over. Are the hair on any one person, take me for instance, is each of my head hairs the same? Are they going to be microscopically consistent?

A I would not say-- different areas would be different, that's why we ask for twelve different, to fifteen different

samples taken from at least three or four parts of the head.

Q All right. So in effect it would depend on where the hair came from?

A You would have -- most of the points would be there, would be microscopically -- the points would be there, but not all in the same way.

Q Okay.

A What I mean is, there may be a little shape of the hair might be a little different.

Q Do you have in your notes there the result of each point on the hair that you say are consistent?

A Well, the result is that they are consistent. It's just one hair was consistent.

Q You don't put in your report the result of each point on the hair? You just put the final result that they are consistent, is that correct?

A Yes.

Q Okay. The study done by Mr. Goday, that's the only study that's been published?

A That's all that have been published as far as figures and actual hair comparison.

Q When was it published?

A "Pubic Hair Probabilities," of his was published in the Journal of Forensic Science, Volume 21, Number 3,

July 1976.

Q Okay, and what about the other.

A "The Human Hair," was Volume 19, July 1974.

Q So these were published what, nine, eight --

A Yes, seven or eight years ago.

Q Since then there have been none published?

A No.

Q There were none prior to that, as far as you know?

A No, not that I know of.

Q How does a report get published in your journal?

A Sir?

Q How does a report get published in your journal?

A By submitting it and checking it from -- they check it, other doctor, PhD's in forensic science check it, from the Journal of Forensic Science.

Q Okay. But they don't -- whenever an article is submitted on certain tests, the Journal itself does not necessarily run those tests to make sure that everything is done right, is that correct?

A Other than the way it's explained that he does it, a person does the tests.

Q But as far as you know then, Goday is the only one that has done this report?

A Yes.

Q That's the only report.

A That's the only one I know of, yes, sir, that's given any probabilities.

Q In your report you also state that there was only one head hair and one pubic hair, is that correct?

A Yes.

Q That was consistent with the defendant's. That's all, right?

A That's all. That's the only two hairs I had.

Q Okay, that's the only two you had. The other items that you have -- forget for a moment about the hairs, other than the hairs -- was there anything in either one of these, in any of this evidence that connects this defendant to the victim, other than the two hairs?

A Not that I have.

Q Okay. One more time. You can only state, then, that these hairs are microscopically consistent?

A Yes, sir.

Q You can also state that it's not like fingerprints, you can't say, yes, this is fingerprints from him. You can only say they are consistent and that based on probability, is that correct?

A Yes, sir.

MR. EDWARDS: That's all I have.

MRS. SHEW: I just have one more question.

REDIRECT EXAMINATION

BY MRS. SHEW:

Q Mr. Berry, Mr. Edwards asked you about making a final report about each characteristic, and you said you just make the final determination. But is it accurate to say that as you are comparing these under your microscope, the unknown hair to the defendant's hair, you take each one of these and compare the size or the color or whatever, and make notes, and you do not call it microscopically consistent then unless each characteristic in the unknown is identical to each of the known?

A That's right, and collectively. And collectively, not just by itself.

MRS. SHEW: I have no other questions, Your Honor.

THE COURT: Thank you. You will be excused.

MRS. SHEW: Your Honor, we ask that Mr. Berry remain downstairs in the Victim Witness office just for a short while.

THE COURT: All right. The State's next witness.

MRS. SHEW: Your Honor, the State has no other witnesses. The State rests.

(Recess)

THE COURT: Let the record show that the parties are present and the jury is present in the courtroom after the recess. The defendant's witness.