

**Transcript of Videotaped testimony of Dawn Katz in Comm. v. Gregory, 1993**

***(Voir Dire)***

THE COURT: Mr. Schoering has  
22 waived doing this. Why don't you skip all  
23 the preliminaries and everything and why  
24 don't you just take her through what you  
25 intend to have her testify to and Mr. Polk  
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2 has one or two, we are not talking  
3 cross-examination, we are just talking  
4 fleshing out her direct.

5 MR. SCHOERING: You should  
6 probably put her under oath. Whatever you  
7 want to do.

8 THE COURT: I don't think she  
9 needs to be under. This is really in lieu  
10 of a long written report about what her  
11 testimony is.

12 \* \* \*

13 D A W N K A T Z,  
14 called as a witness, testified as follows:  
15 DIRECT EXAMINATION  
16 BY MR. SCHOERING:

17 Q. Mr. Katz, you compared hairs in  
18 this case from the defendant, William  
19 Gregory, to the ones you found in a pair  
20 of pantyhose?

21 A. That's correct.

22 Q. Could you tell the Court and  
23 Mr. Polk what your conclusions are when  
24 you compared those?

25 A. Well, I found some head hairs in  
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1 KATZ-DIRECT

2 the pair of pantyhose that was submitted  
3 that had negroid characteristics and I  
4 compared them to head hair standard that  
5 was submitted to me in a sexual assault  
6 kit from William Gregory and they were  
7 similar in color and microscopic  
8 characteristics to the head hair standard.

9 Q. And how do you do a hair

10 analysis?

11 A. Well, to explain to you how I do

12 a hair analysis, I will explain to you  
13 what a hair looks like under a microscope  
14 and the structure we are looking at. A  
15 hair, we look at a hair under a microscope  
16 and also we look at them with our eyes.  
17 We also look at it under the microscope.  
18 They have three different  
19 structures in them. You could think of it  
20 like a cross-section of a pencil. It has  
21 the center part which is called the  
22 medulla. They have an outside coating  
23 just like the outside coating of a pencil,  
24 the paint on the pencil which is called  
25 the cuticle. Then like the wooden part of

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1 KATZ-DIRECT  
2 a pencil would be what we call the cortex  
3 of a hair and that contains the pigment of  
4 a hair. Within those three structures we  
5 look at about 16 different  
6 characteristics. And we also can classify  
7 hairs according to race. There are three  
8 major races of hairs and by body hair and  
9 then also look at the color of the hair.  
10 Q. These 16 characteristics on the  
11 hair found in the pantyhose, how many of  
12 those characteristics matched with those  
13 of the defendant?  
14 A. Well, when we look at each  
15 characteristic, I have a worksheet that  
16 names the characteristics you look at. I  
17 write down the characteristics of the  
18 person's standard. I look at that first  
19 in the microscope. Some people -- keep in  
20 mind that not everyone is going to have  
21 every characteristic. Some people's  
22 standard does not have a characteristic  
23 and that is a characteristic within itself  
24 to be missing one.  
25 So when I look at the hairs I

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1 KATZ-DIRECT  
2 compare it to every characteristic that  
3 the person has. They have to match every

4 single one of those. If there is one  
5 thing that is different in the unknown  
6 hair from the standard that I have made,  
7 that I have written down, then it is  
8 dissimilar. It is not -- we wouldn't call  
9 it similar.

10 Q. So it has to match all 16?

11 A. It has to match everything that  
12 that person would have in their standard,  
13 yes.

14 Q. African-American individuals,  
15 the hair color, is that different under a  
16 microscope?

17 A. Well, the three major races of  
18 hair are called negroid, mongoloid and  
19 caucasian. Basically that would be  
20 African-Americans, then the white races,  
21 and that would include some of the  
22 Hispanic races as well, then the mongoloid  
23 races would be more Oriental origin and  
24 possibly Native Americans would fit into  
25 that.

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1 KATZ-DIRECT

2 And when you look at a  
3 person's -- the characteristics within the  
4 races, there are general characteristics.  
5 The negroid characteristics would be not  
6 necessarily the dark color, which they  
7 usually are very dark brown, but the fact  
8 that they have certain type of medulla,  
9 that the pigment is clumped and very  
10 coarse, that the hair itself is coarse, it  
11 has a lot of variation down the hair as  
12 far as what we call -- well, sort of call  
13 it riveting which makes it look kinky.  
14 That is what most people would understand.  
15 Just things like that. Every race has  
16 different characteristics and the  
17 characteristics in these hairs were more

18 negroid.

19 Q. Within the African-American  
20 race, are there different shades of hair?

21 A. Yes, slightly. But they are  
22 mostly very dark brown. They are not  
23 really black even though when you look at

24 the hair it looks black. When they are  
25 black, when you look at a hair under the

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1 KATZ-DIRECT

2 microscope and it is just black and you  
3 can see no light through it at all it is  
4 what we call opaque. An opaque hair is a  
5 characteristic of a negroid race of hairs.

6 Q. The hairs on the pantyhose and  
7 Mr. Gregory's hairs, were they the same  
8 color?

9 A. Yes, they were.

10 Q. Additionally, did you examine  
11 the kink pattern?

12 A. Well, I mean, as far as the  
13 pattern goes, all the hairs had that same  
14 sort of grid like real kinky, flat, sort  
15 of wavy pattern to it.

16 Q. And the length of the hairs,  
17 were they consistent?

18 A. Pretty much so. Some of the  
19 hairs looked like they had been possibly  
20 broken. But they were consistent in  
21 length.

22 Q. And could you tell the Court  
23 what ovoid bodies are?

24 A. Ovoid bodies are what we call  
25 special characteristics. They don't show

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1 KATZ-DIRECT

2 up in hairs all the time. Special  
3 characteristics include things like  
4 diseases or head lice. Some people have  
5 vermin or they have maybe a double medulla  
6 which is something you don't necessarily  
7 see very often or maybe the hair is dyed  
8 or bleached, some special characteristic  
9 that is not in everyone's hair.

10 Ovoid bodies are just a very

11 dark round body that is found in the  
12 cortex part of the hair and they don't  
13 show up very often, but these hairs had  
14 them.

15 Q. Both sets of hairs had them?

16 A. Yes.

17 Q. Does that have anything to do  
18 with the clusters of pigment?

19 A. No, those clusters of pigment  
20 would be separate from the ovoid bodies.  
21 They don't necessarily carry the pigment  
22 of the hair, they are just sort of -- I  
23 don't think they are necessarily a disease  
24 of the hair, they are just a different  
25 characteristic.

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1 KATZ-CROSS

2 Q. So on each of these 16  
3 characteristics, the hairs did match?

4 A. Yes, they did.

5 Q. And are you able to say with  
6 certainty that those hairs came from the  
7 same person?

8 A. I can't say that they came from  
9 one person to the exclusion of anyone  
10 else. I can only say that the  
11 characteristics I found in the person  
12 standard -- or the characteristics I found  
13 in the unknown hairs were similar to the  
14 color and microscope characteristics of  
15 the standard that was given. That is all  
16 I can say.

17 MR. POLK: I just have one or  
18 two questions, Ms. Katz.

19 CROSS-EXAMINATION

20 BY MR. POLK:

21 Q. On the types of medulla, is  
22 there a mathematical breakdown as to what  
23 percentage of persons have a medulla which  
24 shows versus a medulla that does not show?

25 A. There is no statistics at all on

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1 KATZ-CROSS

2 hair. There has never been any study that  
3 has broken it down like that.

4 Q. So on all of these  
5 classifications aside from perhaps ovoid  
6 bodies, you can't say if this is common or  
7 uncommon?

8 A. Well, no. I can tell you just  
9 from my own experience by looking at so  
10 many hairs and that race of hairs, whether  
11 that is a common characteristic or not.

12 But I can't give you a number, put a  
13 number.

14 Q. Well, without giving a number,  
15 are these common or uncommon?

16 A. Every characteristic basically  
17 that I have got here is fairly common to  
18 what we call the negroid race of hairs  
19 except for the fact that there was no  
20 medulla. That is kind of unusual because  
21 most hairs in the negroid race contain a  
22 medulla.

23 Q. If there was -- if a person is  
24 of multiple races, for example --

25 A. Mixed parentage, yes.

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1 KATZ-CROSS

2 Q. Is that common or uncommon in  
3 African-Americans?

4 A. You mean to have a mixed  
5 background? I think it is common among  
6 everybody, African-American or not, a  
7 mixed background. What you have to  
8 understand is there are only three major  
9 races of hairs. You look at the  
10 characteristics in those.

11 Now, when you describe a hair as  
12 being within that particular race, it by  
13 no means describes the person it comes  
14 from. It just means that their hairs  
15 contain those type of characteristics.

16 Q. Was it possible to do any other  
17 types of testing such as DNA or PMG type  
18 of testing?

19 A. Well, to my knowledge the only

20 way I could have gotten an enzyme test,  
21 enzymes are only found in red blood cells  
22 and tissues. If there had been a big glob  
23 of tissue on the hairs we might have been  
24 able to get some enzymes. For instance,  
25 if they ripped off part of a person's

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1 KATZ-CROSS

2 head.

3 To get DNA testing done you must  
4 have many more hairs than I had here. I

5 mean, not from the standard, but there  
6 were only about five hairs that were  
7 found, that I found in the pantyhose. You  
8 need to have very good roots on the hairs.  
9 They have to be very fresh to get the DNA  
10 testing.

11 Q. One last question. You had five  
12 suspect hairs; is that correct?

13 A. What we call unknown hairs.

14 Q. Unknown hairs. And were any of  
15 those white or gray?

16 A. There were some gray hairs in  
17 the standard, in the standard.

18 Q. In the standard; but in the five  
19 unknown hairs?

20 A. In the unknown hairs --

21 Q. Because I couldn't find your  
22 notes about the unknown hairs.

23 A. I don't necessarily put  
24 anything. I just write whether it is  
25 similar or not. But no, I didn't pull

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1 KATZ-CROSS  
2 those hairs out and look at them on the  
3 slide yesterday. Of the five hairs, they  
4 were not gray. They were all the dark  
5 color.

6 Q. Thank you.

7 MR. POLK: Judge, that is all I  
8 have. Now, Judge, for the record, I would

9 move for a disclosure in the testimony  
10 based upon the comments that there are no  
11 statistical bases or no statistical  
12 studies and we would suggest it does not  
13 reach the level of scientific  
14 acceptability nor can it give (inaudible).  
15 So we would move for exclusion of the  
16 evidence as not helpful to the jury.

17 THE COURT: We short-circuited  
18 this thing and Mr. Schoering as he recalls  
19 the witness will qualify her and she will  
20 tell about how this is a recognized  
21 science or not a recognized science. I  
22 really don't think it is appropriate at

23 this time for me to rule on whether or not  
24 the evidence could come in. I mean, it is  
25 kind of unfair to him because I told him

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1 KATZ-CROSS  
2 to short-circuit it.  
3 MR. POLK: I understand. I was  
4 going on the absence of statistics. That  
5 was my issue.  
6 THE COURT: I do not think that  
7 the mere fact that something has not  
8 been -- there are no statistics or studies  
9 on the distribution of these  
10 characteristics within the population  
11 means the fact would mean that she  
12 couldn't testify that they are the same,  
13 although she doesn't know how common they  
14 are except they are the same.  
15 MR. POLK: That is a point I  
16 want to raise. If we could have a  
17 continuing objection then. We may ask for  
18 a ruling again (inaudible).  
19 THE COURT: What we will do is  
20 get our jury back in here and do the  
21 custody of witnesses and then she will be  
22 recalled to testify.  
23 \* \* \*  
24 (15:25)  
25 \* \* \*

**Trial Testimony (*Jury present*)**

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1 KATZ-DIRECT  
2 D A W N K A T Z,  
3 called as a witness, having been first  
4 duly sworn, was examined and testified  
5 as follows:  
6 THE COURT: Please be seated.  
7 Please keep your voice up. Would you  
8 spell your first and last names for me,  
9 please.  
10 THE WITNESS: Dawn, D-a-w-n,  
11 Katz, K-a-t-z.  
12 THE COURT: Answer  
13 Mr. Schoering's questions, please.



14 MR. SCHOERING: Thank you,  
15 Judge.  
16 DIRECT EXAMINATION  
17 BY MR. SCHOERING:  
18 Q. Ms. Katz, would you please tell  
19 the ladies and gentlemen of the jury what  
20 you do for a living.  
21 A. I'm a forensic serologist.  
22 Q. What is a forensic serologist?  
23 A. A forensic serologist is  
24 responsible for doing a blood and body  
25 fluid analysis and fiber and hair

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1 KATZ-DIRECT  
2 comparisons on evidence that come from the  
3 scene of an alleged crime.  
4 Q. And how long have you held your  
5 present position?  
6 A. I have been with the State  
7 Police Jefferson Regional Crime Lab for  
8 five years.  
9 Q. Could you please outline for the  
10 ladies and gentlemen of the jury what  
11 education, training and experience you  
12 have had to qualify you for this position?  
13 A. I have a bachelor of science  
14 degree in biology from the University of  
15 Kentucky. I worked for five years in  
  
16 cancer research before I came to the State  
17 Police five years ago. I trained for an  
18 entire year under other qualified  
19 serologists in the state of Kentucky  
20 before I was qualified to do case work  
21 myself. I'm also a member of the  
22 Midwestern Association of Forensic  
23 Scientists.  
24 Q. Okay, ma'am, and in the past  
25 have you had the opportunity to testify in

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1 KATZ-DIRECT  
2 courts in Kentucky regarding hair  
3 comparisons?  
4 A. Yes, I have.  
5 MR. SCHOERING: Your Honor, at  
6 this point I would ask that Ms. Katz be

7 qualified as an expert.

8 THE COURT: I will take up any  
9 objections if and when they are made.

10 MR. SCHOERING: Thank you,  
11 Judge.

12 Q. Ma'am, on July 1st, 1992 did you  
13 receive certain evidence in the case of  
14 Commonwealth versus William Gregory?

15 A. Yes, I did.

16 Q. What evidence did you receive on  
17 that date?

18 A. I received several pieces of  
19 evidence. I received a pair of pantyhose  
20 with the legs knotted together. I  
21 received a red T-shirt, a lug wrench, two  
22 separate packages containing dark-colored  
23 fibers. I received a sexual assault kit  
24 from William Gregory that contained some  
25 various standards. We had pubic hair

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1 KATZ-DIRECT  
2 standards, saliva swabs, and blood  
3 standard from him. I also received a bra  
4 and a flat sheet and a satin comforter and  
5 a sexual assault kit from [REDACTED]

6 that contained several standards from her,  
7 pubic hair standard, head hair standard,  
8 her saliva swabs and a blood standard.

9 Q. Ma'am, who did you receive these  
10 exhibits from?

11 A. I received those from Technician  
12 Fowler at the local police department.

13 Q. And that would be on 7-1-92?

14 A. Yes.

15 Q. At the time you had these  
16 exhibits in your possession, were they in  
17 your exclusive control and custody?

18 A. Until I work on them they are  
19 kept in the evidence locker and it is  
20 locked when I'm not using it and then they  
21 are kept there again after I finished my  
22 analysis, locked until they are picked up.

23 Q. Thank you, ma'am.

24 MR. POLK: Can we approach for a  
25 second?

1 KATZ-DIRECT  
2 (Conference at the bench.)  
3 BY MR. SCHOERING:  
4 Q. Would you please open what I  
5 have marked as Commonwealth's Exhibit 80.  
6 Thank you, ma'am.  
7 And do those appear to be the  
8 pantyhose that you examined?  
9 A. Yes, they are. They have my  
10 laboratory number, the exhibit number and  
11 my initials on the waistband.  
12 Q. Did the bag that those were  
13 contained in also have your initials on  
14 it?  
15 A. Yes, the bag and the envelope  
16 have my laboratory number, exhibit number  
17 and my initials.  
18 Q. Thank you, ma'am.  
19 MR. SCHOERING: Your Honor, at  
20 this point the Commonwealth would move  
21 Exhibit 80 into evidence.  
22 THE COURT: It will be admitted.  
23 MR. SCHOERING: Thank you,  
24 Judge.  
25 Q. Ms. Katz, what were you

1 KATZ-DIRECT  
2 requested to do with all of the exhibits  
3 that were submitted to you?  
4 A. Well, I was asked to just look  
5 for any blood or hairs that I could find  
6 on these exhibits.  
7 Q. Were you asked to make any  
8 comparisons?  
9 A. Yes, I was asked to compare them  
10 back to the standards that were submitted  
11 to me in the sexual assault kits.  
12 Q. Ma'am, regarding the pantyhose,  
13 let me ask you, did you find any hairs in  
14 those?  
15 A. Yes, I did. I did collect hairs  
16 from those.  
17 Q. Do you know approximately how

18 many hairs you found in those?  
19 A. I found five hairs.  
20 Q. And you also at that time had  
21 the evidence kit taken from the defendant,  
22 William Gregory; is that correct?  
23 A. Yes, I did.  
24 Q. Did that kit contain head hair  
25 samples of William Gregory?

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1 KATZ-DIRECT  
2 A. Yes, that is one of the  
3 standards that comes in the kit. There  
4 was a head hair standard.  
5 Q. And did you perform a comparison  
6 between the hairs that were in the kit  
7 from Mr. Gregory and the hairs found in  
8 the pantyhose?  
9 A. Yes, I did. I did a hair  
10 comparison on those.  
11 Q. Could you please explain to the  
12 ladies and gentlemen of the jury how you  
13 perform hair comparisons.  
14 A. There are three major structures  
15 within hair. We look at hairs visually  
16 and then we also look at them under a  
17 microscope. There are three major  
18 structures that contain most of the  
19 characteristics. If you think about a  
20 pencil as a cross-section, that is what a  
21 hair is like. The center part of the  
22 pencil which is the lead is what we call  
23 the medulla which is the center part of  
24 the hair. Then the pencil has an outside  
25 coating, the paint on the outside of it,

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1 KATZ-DIRECT  
2 and a hair has an outside coating as well,  
3 that is called a cuticle. Then the wooden  
4 part of the pencil is what what we would  
5 call the cortex of the hair, and the  
6 cortex contains the pigment granules and  
7 the color of the hair.  
8 We look at several  
9 characteristics within these three

10 structures of the hair. We can also  
11 categorize hairs by their race, the part  
12 of the body that they come from, and we  
13 also look at their color.

14 Q. The hairs that you found in the  
15 pantyhose, first of all, I think you  
16 testified those were head hairs; is that  
17 correct?

18 A. Yes, they were head hairs.

19 Q. What race did you determine  
20 those hairs to have an origin from?

21 A. There are three major races of  
22 hairs. There is the negroid race,  
23 caucasian and mongoloid race. The  
24 characteristics that I found in the  
25 unknown hairs were the general

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1 KATZ-DIRECT

2 characteristics of the negroid race.

3 Q. Could you please explain to the

4 ladies and gentlemen of the jury your  
5 findings as a result of the comparison of  
6 the hairs from the pantyhose and the hairs  
7 from the defendant?

8 A. Well, I determined that the  
9 hairs I found in the pantyhose were  
10 similar in color, microscopic  
11 characteristics from the head hair  
12 standards that came from Mr. Gregory.

13 Q. That is a term that you all use  
14 when you make a match, that they are  
15 similar?

16 MR. POLK: Objection, Judge.

17 MR. SCHOERING: That is fine.

18 Q. Ma'am, what does that mean?

19 A. That means that I have -- I have  
20 looked at the standard, the head hair  
21 standard I'm given first and I have  
22 written down a range of characteristics on  
23 a worksheet that I have.

24 When I look at the three  
25 components I told you about in the hair, I

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1 KATZ-DIRECT

2 look at the characteristics of those. I  
3 determine the race of the hair, the body  
4 area and its color, and that includes the  
5 length of the hair, and I write all of  
6 this down. I have a range of  
7 characteristics in the standard. And some  
8 people will not have all of those  
9 characteristics and that is a  
10 characteristic in itself to be missing a  
11 characteristic. I will write all that  
12 down.

13       Then I will look at the unknown  
14 hairs and I will look for those same  
15 characteristics within those unknown  
16 hairs. The unknown hair must have all of  
17 those same characteristics for me to say  
18 that it is similar. If it is different in  
19 any one of those characteristics I will  
20 call them dissimilar. So what it means is

21 that the unknown hair has the same  
22 characteristics as the known standard.

23     Q. Thank you, ma'am. And how many  
24 characteristics are we talking about that  
25 you look at or you look for?

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1           KATZ-DIRECT

2     A. There is approximately 16  
3 characteristics.

4     Q. And what are some of those  
5 characteristics?

6     A. Well, I would look at the tip of  
7 the hair to determine whether it was cut  
8 or broken or split, any kind of -- that  
9 kind of thing. Most head hairs of course  
10 are going to have a razor cut. Most  
11 people have their hair cut.

12       We look at the roots to  
13 determine whether they are normal, if they  
14 have been stretched or if they have pieces  
15 of tissue on them, if they are shriveled.  
16 We look at the diameter of the hair itself  
17 in general.

18       I told you about the cuticle,  
19 the outside of the hair. It can be thick  
20 or it can have color to it. It can have

21 pigment granules in it. There are several  
22 things there. Hairs have scales. I look  
23 at the scales on the hair. I look at the  
24 pigment granules themselves and determine  
25 the size of those and what color it is.

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1 KATZ-DIRECT  
2 And I look at the medulla and determine if  
3 there even is a medulla. Some people  
4 don't have one. I look at the  
5 characteristics of the medulla. Then I  
6 also look to see if there is any kind of  
7 artificial treatment to the hair, dye or  
8 bleach, if there is any damage to the  
9 hair, if it has been burned or broken, if

10 the hair is diseased.

11 Special characteristics like  
12 diseases in the hair, if there are things  
13 like ovoid bodies which are just very dark  
14 areas in a hair, if there are head lice,  
15 vermin, anything like that, those are some  
16 things we look for.

17 Q. And as to each of these  
18 characteristics that you examine, between  
19 Mr. Gregory's sample and the sample out of  
20 the stocking, did they match?

21 A. Yes, they were the same.

22 Q. Ma'am, was either the  
23 defendant's hair or the hairs that you  
24 found in the pantyhose treated in any way,  
25 were you able to detect?

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1 KATZ-DIRECT  
2 A. I didn't see any treatment to  
3 them.  
4 Q. No evidence of treatment?  
5 A. No, no evidence of dying or  
6 anything like that.  
7 Q. Ma'am, do most African-American  
8 hairs that you have examined have  
9 medullas?  
10 A. Well, it seems to be a pretty  
11 common characteristic in the negroid race.

12 As a matter of fact, they usually have a  
13 very prominent medulla. Most dark-colored  
14 hairs, like there are dark brown hairs, a  
15 medulla is very prominent usually.

16 Q. And did the samples taken from  
17 the pantyhose have a medulla?

18 A. These hairs had no medulla.  
19 That was one of the characteristics they  
20 were lacking.

21 Q. Did the samples that you  
22 obtained from Mr. Gregory have a medulla?

23 A. No, they did not.

24 Q. Ma'am, the length of the hairs,  
25 could you describe that? And I'm speaking

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1 KATZ-DIRECT  
2 of the ones that were found in the  
3 pantyhose.

4 A. They were approximately two to  
5 five inches long. Some of them looked  
6 like they might have been broken. So some  
7 of them are shorter.

8 Q. Ma'am, did the color of the  
9 hairs found in the pantyhose match those  
10 submitted by William Gregory?

11 A. Yes, they were the same in  
12 color.

13 Q. Could you please describe the  
14 ovoid bodies and what your findings were  
15 in relation to that?

16 A. Well, I find ovoid bodies in the  
17 standard and also in the unknown hairs.  
18 This isn't something we see very often.  
19 It is kind of an unusual characteristic.  
20 It is different from the pigment of a  
21 hair. There would be pigment granules in  
22 the cortex like I told you that would give  
23 the hair its color. These ovoid bodies  
24 are just dark, round, they sort of float  
25 in the cortex. They don't move around but

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1 KATZ-CROSS  
2 they look like they are floating in there.



3 They are just little dark, round bodies  
4 and they are found -- I don't see them  
5 that often. That is why I thought it was  
6 unusual. I circled that and thought that  
7 was an unusual characteristic.  
8 Q. That was present in both the  
9 sample submitted to you from the defendant  
10 and the sample from the pantyhose?  
11 A. Yes.  
12 Q. Thank you very much, ma'am.  
13 Please answer Mr. Polk's questions.  
14 CROSS-EXAMINATION  
15 BY MR. POLK:

16 Q. Ms. Katz, you will probably have  
17 to help me with some of the terms because  
18 I will mispronounce them. Let's start  
19 with William's hair, the ones you received  
20 as the known standards. About how many  
21 hairs were they?  
22 A. I didn't count them but we  
23 require that we have at least 15 hairs  
24 from all over the head, because a person's  
25 standard can vary on different areas of

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1 KATZ-CROSS  
2 the head.  
3 Q. First of all, you got around 15  
4 I guess or more?  
5 A. Approximately 15, more or less.  
6 Q. When you say a person's hair can  
7 vary depending on where it is drawn, let's  
8 say I pluck a hair from this side and  
9 pluck a hair from this side (indicating),  
10 are you saying they may be dissimilar?  
11 A. Not dissimilar. They are still  
12 your standard. We know where they came  
13 from.  
14 Q. If you didn't know where they  
15 came from, could they be considered  
16 dissimilar?  
17 A. That is why we ask that you have  
18 hairs taken from all over the head in  
19 different areas because yes, if you don't  
20 have a good standard from someone and you  
21 have a hair that doesn't fit within the

22 characteristics you have from the  
23 standard, it could be considered  
24 dissimilar.  
25 Q. I guess in the same way there is

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1 KATZ-CROSS  
2 a possibility that you could take a random  
3 hair from my head and a random hair from  
4 Mr. Schoering's head and look at it and  
5 they could seem similar?  
6 A. They may have overlapping  
7 characteristics, that is why we look at so  
8 many different things. If you look at any  
9 two persons' hairs you may find that they  
10 have one or two of the same  
11 characteristics.  
12 Q. Now, on the head hairs that you  
13 know were William's, the ones that were  
14 sent to you under his name, of the 15 were  
15 all of them the same color?  
16 A. I have here they are from a  
17 medium to a dark, what I call an espresso  
18 brown, which is a very dark brown. There  
19 are varying shades of brown. Now, they  
20 are all the same shade, the espresso  
21 color, but they were from a medium to the  
22 dark.  
23 Q. Were there some gray hairs too?  
24 A. There were also some gray hairs,  
25 yes, in the standard.

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1 KATZ-CROSS  
2 Q. So of William's hairs, some were  
3 as you termed it espresso brown but some  
4 were gray?  
5 A. Uh-huh.  
6 Q. Of the unknown hairs, the hairs  
7 of the attacker that were found in the  
8 pantyhose, were any of them gray?  
9 A. No, there were no gray hairs.  
10 There were five hairs and none of those  
11 were gray.  
12 Q. And did you by any chance write

13 down the number of gray hairs out of the  
14 15 from William's sample?

15 A. No, I did not.

16 Q. Could it have been as many as  
17 three or four?

18 A. I really don't remember. I  
19 would have to look at the hairs again.

20 Q. You don't remember, that is  
21 fine.

22 Now, on hair comparisons, you  
23 are going to have to help me out a little  
24 bit here, my understanding is it is not  
25 based on mathematics; is that a fair

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1 KATZ-CROSS

2 statement?

3 A. Well, there are no statistics on  
4 what percentage of these characteristics  
5 would be found in a certain population,  
6 no.

7 Q. So as far as, say, the  
8 percentage of people who have a hair color  
9 called espresso brown, there is not a book  
10 you can look at and say 32 percent of the  
11 population has that, right?

12 A. No.

13 Q. And there is not a percentage  
14 that we know of people whose roots are  
15 normal as opposed to abnormal I guess or  
16 stretched, there is no statistical study  
17 saying which is more common or which is  
18 uncommon; is that a fair statement?

19 A. No, that is just -- roots are  
20 going to be normal unless something has  
21 been done to the hair, for instance, if it  
22 has been pulled out or something like  
23 that. So that is something -- there is no  
24 statistics. That is just a very common  
25 characteristic.

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1 KATZ-CROSS

2 Q. Now, on both the unknown hairs  
3 and William's hairs, they were both normal

4 in that respect, correct?

5 A. Well, some of the roots were  
6 shriveled, and shriveled roots are just  
7 old hairs that just fall out.

8 Q. That is normal?

9 A. That is just normal in everyone,  
10 yes.

11 Q. So whether they were normal or  
12 it is time for them to fall out, both of  
13 those are pretty typical, right?

14 A. Yes, that is pretty typical.

15 Q. Now, when we get into some of  
16 the other things, like let's talk about  
17 pigment granules for a second, in pigment  
18 granules, as I understand it, there is a  
19 couple of different things you can say. I  
20 guess you can say that the pigment  
21 granules are fine or medium or large; is  
22 that a fair statement?

23 A. We call them fine, medium or  
24 coarse. The large doesn't mean the same  
25 thing as coarse. Coarse means that they

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1 KATZ-CROSS

2 are very prominent, that they are clumps  
3 of pigment as opposed to being very small  
4 tiny little pigment. But pigment can  
5 still be coarse and small or coarse and  
6 large.

7 Q. So coarse means they are big  
8 clumps, right?

9 A. Right.

10 Q. How big of a clump is big? Is  
11 there a measure for that?

12 A. No. When you look at the hair  
13 under the microscope, instead of seeing  
14 the pigment granules fairly uniformly  
15 across a hair, what you would see is just  
16 clumps of the granules. You might see  
17 like clear spaces in between the clumps  
18 but they are still forming the pigment of  
19 the hair, instead of being fairly  
20 uniformly distributed.

21 Q. But is there a dividing line  
22 that is written down somewhere between one

23 that is coarse and not coarse or is it a  
24 subjective decision that each examiner has  
25 to make?

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1 KATZ-CROSS

2 A. Well, we have pictures that we  
3 can use. I mean, some hairs you look at,  
4 it is definitely coarse, you can tell.  
5 There are pictures that you can use in our  
6 training manuals to give you examples of  
7 what really looks coarse. But it is  
8 fairly subjective. It is something you  
9 have to look at yourself. It is something  
10 you learn after you have looked at  
11 hundreds and hundreds of hairs.

12 Q. Is it something that two  
13 examiners of excellent qualifications  
14 acting in good faith could disagree on  
15 some of these factors?

16 A. Well, I guess that is possible,  
17 I mean, for two different people to look  
18 at something and see something different.

19 Q. Now, we talked a minute ago  
20 about the color of the hair and your  
21 phrase was medium to dark espresso brown;  
22 is that right?

23 A. Yes.

24 Q. And I obtained what I thought  
25 was sort of a table of normal values of

242

1 KATZ-CROSS

2 hair and I didn't see that term. Is that  
3 a standard term that all forensic  
4 scientists agree on?

5 A. What standard term?

6 Q. Espresso brown.

7 A. No, it is a color. It is a  
8 very, very dark brown. You have seen  
9 espresso coffee, it is almost black, it is  
10 a very, very dark brown color.

11 Q. I always thought it was black.

12 A. Well, it is not. And hair may  
13 look black but when you look at it under a  
14 microscope, when a hair is truly black, it

15 is what we call opaque. There is no light  
16 coming through it and you can't see  
17 anything. It is just dark black. You

18 can't make out any characteristics.

19 Q. Is the expression "espresso  
20 brown," is that a standard that all  
21 forensic scientists recognize?

22 A. It is a color they recognize,  
23 yes.

24 Q. That is a term that all forensic  
25 scientists, people who do hair

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1 KATZ-CROSS

2 comparisons, agree that a certain shade is  
3 that?

4 A. Right, when you are describing a  
5 color you have to use something that is  
6 similar to that color. People have to be  
7 able to relate that color to something  
8 they have seen before, so the espresso,  
9 everyone -- well, not everyone -- but most  
10 people have seen espresso coffee that is  
11 very, very dark brown, almost black like  
12 you said. That is why I use that term to  
13 describe this color because it was a very,  
14 very dark brown.

15 Q. And I assume you use some  
16 measuring device such as they use for  
17 photography to gauge the color?

18 A. No.

19 Q. Do you use some type of  
20 electronic device to get a color value for  
21 it?

22 A. No. The color is just, like I  
23 told you, you relate it back to something  
24 you have seen that color before.

25 What you have to understand is

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1 KATZ-CROSS

2 when we are doing a hair comparison, we  
3 have the known hairs on this side of the  
4 microscope and the unknown hairs on this  
5 side of the microscope (indicating). We

6 look at them and we can look at them right  
7 beside each other. If the colors are not  
8 the same shade, then they don't match in  
9 color. So we have the two shades to look  
10 at and we can tell if they are the same in  
11 color.  
12 Q. So, again, it is a subjective  
13 decision with the examiner?  
14 A. No, that is not terribly  
15 subjective. It is either the same color  
16 it is not. I think anyone who would look  
17 at a hair comparison under the microscope  
18 could tell whether they are the same  
19 color.  
20 Q. Well, do you all have -- in this  
21 case did you all take photographs from the  
22 microscope?  
23 A. We don't have that capability.  
24 No, we do not. I wish we did. I wish I  
25 could take pictures and show them to you.

245

1 KATZ-CROSS  
2 That is easier to describe hair  
3 comparisons.  
4 Q. That way we all could have  
5 looked?  
6 A. Yes.  
7 Q. Now, maybe I'm missing this, my  
8 understanding for you to make a conclusion  
9 that the hairs are similar, every single  
10 characteristic has to match; is that  
11 correct?  
12 A. That's right. Like I told you,  
13 I have the hairs right there under the  
14 microscope beside each other.  
15 Q. If there is a single thing that  
16 is different, you can exclude one person?  
17 A. Yes. If the other  
18 characteristics don't fit within.  
19 Q. So of those 16, any one  
20 different you exclude the person, you say  
21 this is definitely not the person's hair?  
22 A. We say it is dissimilar.  
23 Q. Okay, dissimilar. But when you

24 are saying the hairs are similar and could  
25 have common origin, would you agree you

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1 KATZ-CROSS  
2 are not saying with any degree of  
3 certainty that they do have common origin?

4 A. Oh, no. I don't see how you can  
5 possibly say that. You have got two sets  
6 of hair there in front of you, you are  
7 looking at them, they have the same  
8 characteristics. I can't say with any  
9 certainty that they don't belong to  
10 someone because they have the same  
11 characteristics. I would have to say that  
12 they more than likely belong to this  
13 person.

14 Q. They might?

15 A. More than likely they belong to  
16 this person. I would say more than might.  
17 I can't explain to you unless you have  
18 done hair comparisons how very uncommon it  
19 is -- well, I can't explain to you. I  
20 look at so many different characteristics.  
21 They all have to be the same.

22 Q. Wouldn't you agree, though, with  
23 the general statement that hair evidence  
24 cannot be associated with a given  
25 individual with a high degree of

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1 KATZ-REDIRECT  
2 certainty?

3 A. No, I wouldn't agree with that  
4 at all.

5 Q. You recognize there are forensic  
6 scientists who feel that way?

7 A. There are forensic scientists  
8 that would dispute anything I would say,  
9 yes.

10 MR. POLK: I don't have any  
11 other questions.

12 THE COURT: Mr. Schoering?

13 MR. SCHOERING: Thank you,  
14 Judge. Just a few more.



15 REDIRECT EXAMINATION

16 BY MR. SCHOERING:

17 Q. Ms. Katz, Mr. Polk asked you a  
18 number of questions about the espresso  
19 terminology used to describe the color of  
20 these hairs. Were they the same color,  
21 the two hairs that you looked at under the  
22 microscope?

23 A. Yes, they were the same shade of  
24 color. Like I told you, I have them right  
25 there beside each other. There are

248

1 KATZ-REDIRECT

2 various shades of brown. You would be  
3 surprised. When you look at a dark color  
4 of hair as brown, they look the same,  
5 looking at them, but when you put them  
6 under the microscope there are very subtle  
7 differences in shading, and these were the  
8 same.

9 Q. Does the microscope have a light  
10 on it?

11 A. Yes, it does.

12 Q. Where is the light?

13 A. It has two different lights. It  
14 has one coming from the top and one from  
15 the bottom as well. So there is light  
16 going through the hair.

17 Q. So whatever terminology you  
18 used, they were the same color?

19 A. That's correct.

20 Q. I believe you testified on  
21 cross-examination that any person, any two  
22 different people's hair may have one or  
23 two characteristics that overlap, correct?

24 A. Yes, that's correct.

25 Q. For instance, Mr. Polk's hair

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1 KATZ-REDIRECT

2 and mine may appear the same under one or  
3 two of these same characteristics but you  
4 wouldn't know until you looked at it?

5 A. That's right, I would have to

6 look at it under the microscope.

7 Q. Ma'am, is it unusual to have 16  
8 characteristics overlap, all 16 of these  
9 that you have talked about, hairs from two  
10 different people?

11 A. I really don't run across --  
12 where you would run across something like  
13 that would be in families. I mean, you  
14 have to compare hairs from brothers and  
15 sisters that have the same genetic  
16 background and carried a lot of the same  
17 genetic characteristics from the same  
18 parents, you might run into very similar  
19 characteristics in two people. But, in  
20 general, you wouldn't see that kind of an  
21 overlap in two people you would just pick  
22 off the street.

23 Q. Ma'am, Mr. Polk asked you about  
24 the statistics and what was unusual and  
25 what was usual. Did you testify regarding

250

1 KATZ-RECROSS  
2 the absence of a medulla in negroid hairs,  
3 is that usual or unusual?

4 A. I testified before that we  
5 usually see that. As a matter of fact,  
6 one of the characteristics of negroid  
7 hairs is a very prominent medulla and that  
8 even in very dark brown hairs and in dark  
9 caucasian hairs that the medulla is  
10 usually very prominent. It is usual to  
11 see medulla in dark hairs.

12 Q. And there was not a medulla  
13 present in either of the samples you  
14 looked at, correct?

15 A. No, there was not.

16 Q. Again, with the presence of the  
17 ovoid bodies that you saw in the hair, was  
18 that usual or unusual?

19 A. That is unusual.

20 Q. That is all I have, thank you.

21 RE-CROSS-EXAMINATION

22 BY MR. POLK:

23 Q. Ms. Katz, what percentage of  
24 African-Americans do not have a medulla;

25 do you know?

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1 KATZ-RECROSS

2 A. I told you, there is no  
3 statistics on this. I can tell you this  
4 is the first time I have ever had a  
5 negroid origin hair that has not had a  
6 medulla in it.

7 Q. What percentage of people have  
8 ovoid bodies in them?

9 A. This is probably the first time  
10 I have ever seen an ovoid body in a human  
11 hair. I have seen them in cattle hair  
12 before.

13 MR. POLK: I don't have any more  
14 questions.

15 MR. SCHOERING: Nothing further.

16 THE COURT: Thank you very much,  
17 ma'am. You may step down. You are  
18 excused.

19 \* \* \*