

1 yourselves or allow anyone to discuss it with you.
2 or form or express any opinion on the case.

3 The Court will recess until 1:30.

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5 MONDAY AFTERNOON SESSION, OCTOBER 17, 1988

6 THE COURT: Call your next witness.

7 MR. McGINTY: The State calls Joe
8 Serowick.

9 The STATE OF OHIO, to maintain the issues
10 on its part to be maintained, called as a wit-
11 ness, JOSEPH SEROWICK, who, being first duly
12 sworn was examined and testified as follows:

13 DIRECT EXAMINATION OF JOSEPH SEROWICK

14 BY MR. McGINTY:

15 Q Sir, could you state your name and spell your last
16 name for the record.

17 A My name is Joseph Serowick.

18 Q And how are you employed, sir?

19 A I'm employed by the City of Cleveland, the
20 Department of Police, in their forensic laboratoroty as a
21 civilian scientific examiner.

22 Q And how long have you been so employed?

23 A I have been employed there for approximately two
24 years.

25 Q And could you tell us of your educational

1 background?

2 A I've received a Bachelor of Science degree in
3 biology from Demoyne College in Syracuse, New York. I
4 have also received a Master of Science degree in the
5 field of forensic science from the George Washington
6 University in Washington, D.C.

7 Q And are you a forensic scientist, sir?

8 A Yes. I work as a scientific examiner.

9 Q What was your Master's thesis in, what was the
10 subject?

11 A The subject of my Master's thesis was the
12 deterioration of hair in soil.

13 Q Okay. Regarding the aging processes effects on
14 hair, particularly in bodies that have been buried
15 directly in dirt?

16 A That is correct.

17 Q Now, do you have expertise in the field of hair and
18 hair analysis?

19 A I have been, I have taken courses and have studied
20 the literature of hair examination in quite a bit of
21 detail, yes, I have.

22 Q And tell us of your training in hair analysis.

23 A In graduate school I received, part of a course was
24 in hair analysis. I also, in the course of my thesis,
25 analyzed hair on a very large scale.

1 Q Did you have to become very familiar with the
2 analysis of hair in general before you could begin to
3 note the differences in deterioration of hair in buried
4 bodies, in that type of hair analysis?

5 A That is correct.

6 Q And have you testified as an expert before in the
7 Court of Common Pleas?

8 A Yes, I have.

9 Q Approximately how many times?

10 A Approximately twenty times.

11 Q And what are your fields of expertise?

12 A My fields of expertise in the forensic science
13 laboratory are serology and also hair examination.

14 Q And do they both primarily rely on microscopic
15 examination?

16 A Hair analysis more so than the serology, yes,
17 microscopic examination has a lot to do with it.

18 Q Could you tell us, sir, did you have an occasion to
19 examine the bag that has been marked as State's Exhibit
20 Number 1 for purposes of identification, and the
21 washcloth contained therein?

22 A Yes, I have.

23 Q Tell the jury how you recognize a product that you
24 have examined before.

25 A I recognize this particular piece of evidence

1 because it has the laboratory number, 248836 and also my
2 initials and the initials of a co-worker.

3 Q And what are your initials, jsut so we recognize
4 them, and your co-worker's?

5 A My initials are JMS and RR is my co-worker.

6 Q Who is the co-worker?

7 A My co-worker on this was was Renette Reed.

8 Q Was this property, first of all, received in due
9 course from the Cleveland Police who had delivered it to
10 the S.I.U. lab?

11 A That is correct.

12 Q And the normal course, the detective or police
13 bring it to the S.I.U. lab and it's assigned a number?

14 A That's correct.

15 Q When you do your analysis, do you always refer
16 through that number?

17 A Yes. All of our evidence is cataloged by that
18 particular number.

19 Q And is that number contained on that towel next to
20 your initials?

21 A Yes, it is.

22 Q Now, what testing did you do first with this towel?

23 A Initially I observed the towel with the naked eye
24 and tried to find any type of discoloration or stains
25 which may be some semen or blood.

1 Secondly, once I found a stain that may be semen, I
2 tested it for the presence of acid phosphatase, which is
3 an enzyme found in seminal fluid which is used as a
4 preliminary indication of the presence of seminal fluid.

5 Q Is that more or less a field test?

6 A It's a wet chemical test that sometimes can be used
7 in the field.

8 Q And what was the reaction, positive or negative for
9 seminal fluid?

10 A Upon initial testing, the stains were positive for
11 acid phosphatase.

12 Q Now, do only males eliminate or pass on seminal
13 fluid from their bodies?

14 A Seminal fluid only comes from the male ejaculate,
15 which is during intercourse.

16 Q Does the female in any manner or shape emit seminal
17 fluids?

18 A They do not. They don't secrete seminal fluid at
19 all.

20 Q Continue. After your acid phosphatase test, what
21 test was next?

22 A After the acid phosphatase test, I performed what
23 is known as a P-30 test. P-30 is a protein which is
24 found in seminal fluid to the exclusion of anywhere else
25 in the body. Therefore, it is considered a confirmatory

1 test for the presence of seminal fluid.

2 Q What type of test does that involve, sir?

3 A That particular test involves what is known as a
4 crossover electrophoresis type of a test.

5 Q And what were the results of the electrophoresis
6 test?

7 A The results of that particular test was positive.
8 Therefore, I concluded that P-30 was present. And since
9 P-30 was present, I concluded that indeed, seminal fluid
10 was present.

11 Q On that towel that is contained in State's Exhibit
12 Number 1?

13 A Yes.

14 Q Or washcloth?

15 A In the encircled area, yes.

16 Q Therefore, based on your testing, your educational
17 background and your experience -- and by the way, on your
18 experience have you had the occasion to examine other
19 items before for, whether it be seminal fluid or hair?

20 A Yes.

21 Q Numerous times?

22 A Yes, sir, numerous times.

23 Q Is it a common procedure?

24 A Yes, it is.

25 Q Based on that experience and your examinations that

1 you described here, do you have an opinion within
2 reasonable scientific certainty as to whether seminal
3 fluid was emitted and contained on that washcloth?

4 A Yes, I do.

5 Q What is that?

6 A My conclusion is that the encircled area of this
7 washcloth does have seminal fluid on it.

8 Q Now, did you have an opportunity to test the
9 seminal fluid itself?

10 A Yes, I did.

11 Q And how did you accomplish that?

12 A After determining that seminal fluid was present, I
13 attempted to determine which, ABO antigens, if any, were
14 found in the seminal fluid. I accomplished that by
15 performing an absorption inhibition test on a piece of
16 this cloth.

17 Q Why were you looking for the ABO fluid type; what
18 would that tell you?

19 A ABO antigens are molecules found in seminal fluid.
20 They are genetically controlled, and it is a way by which
21 we can identify one sample of seminal fluid from another
22 sample of seminal fluid.

23 Q And what else can you determine from that ABO type?

24 A I can determine secretor status and I can also
25 determine which ABO antigens are present.

1 By secretor status I mean that while everybody in
2 this courtroom has ABO type in their blood, 80 percent of
3 the people also secrete their ABO antigens in their body
4 secretions; their saliva, their semen, their sweat, their
5 tears, et cetera. Twenty percent of the population do
6 not secrete those particular substances in those fluids.
7 Therefore, by testing this seminal fluid, I can determine
8 whether the person who deposited this seminal fluid was
9 in fact a secretor or a nonsecretor.

10 Q Was the person that deposited that seminal fluid on
11 that wash rag a secretor?

12 A Yes, he was.

13 Q Okay. And to be sure now so the jury understands
14 your probabilities, four out of five people are secretors;
15 is that correct?

16 A That's correct.

17 Q One in five is not?

18 A That is correct.

19 Q And this individual was a secretor?

20 A Yes, he was.

21 Q Now, are you able to determine the blood type or
22 further classify the ABO type from the testing you
23 described?

24 A Yes. I was able to determine which of the ABO
25 substances were in the seminal fluid.

1 Q And which ABO substances were in this seminal fluid
2 on State's Exhibit 1?

3 A I found B antigens and also H antigens, which is
4 consistent with AB blood, which is conducive to AB type.

5 Q So from your testings are you able to determine
6 with scientific certainty what type of blood the secretor
7 was who deposited the seminal fluid on State's Exhibit 1,
8 the washcloth?

9 A Yes, I was.

10 Q What was his blood type?

11 A The ABO type of the donor of this seminal fluid was
12 type B.

13 Q And what percentage of the population is type B?

14 A Approximately 20 percent of the black population is
15 type B.

16 Q Does it differ significantly between the white and
17 the black population?

18 A Not much, a couple of percentage points, but not
19 that much.

20 Q And you have already described that 80 percent are
21 secretors. Based on those two, what portion of the
22 general population does AB secretor eliminate as far as
23 blood type?

24 A AB secretor constitutes approximately 16 percent of
25 the population.

1 Q So if we understand you correctly, sir, that 84
2 percent of the population, male population would be
3 unable to deposit that seminal fluid on State's Exhibit
4 1?

5 A That is correct.

6 Q Now, did you have an occasion to learn, through me,
7 through the medical records or whatever -- or did we
8 submit, I don't recall -- the blood type of [REDACTED]
9 [REDACTED]?

10 A [REDACTED] submitted a saliva sample, which
11 was taken by myself. And I tested the saliva, her
12 saliva, for the presence of ABO antigens. And I
13 determined that she was a secretor of type B.

14 Q So by coincidence the victim is also a B secretor?

15 A That is correct.

16 Q And the defendant, Anthony Green is a B secretor by
17 your testing?

18 A Through the blood samples and the saliva samples
19 submitted by the defendant, he was determined to be
20 indeed a type B secretor.

21 Q All right. You determined, you said you determined
22 earlier from the blood type of the depositor of the
23 seminal fluid on the rag to be a B secretor, was that a
24 male or female who deposited the seminal fluid which you
25 tested?

1 A A female cannot produce or secrete seminal fluid;
2 therefore, a male must have secreted that particular body
3 fluid.

4 Q Do you have an opinion, based on the same factors
5 listed before, as to the type of blood, an ABO type, that
6 the secretor who deposited the seminal fluid on State's
7 Exhibit Number 1 was, blood type?

8 A The blood type of the man who deposited this
9 particular seminal stain was type B.

10 Q Now, Mr. Serowick, did you have an opportunity to
11 examine a hair that was also found on State's Exhibit 1?

12 A Yes, I did.

13 Q And submitted to the lab as such?

14 A Yes. It was found right on the rag.

15 Q And it was submitted right on the rag?

16 A It was found right on this towel here.

17 Q And after it was found, what did you do with the
18 hair, as far as analysis?

19 A Once the hair was found, it was recovered from this
20 particular towel and placed in an envelope so that it
21 would not be lost.

22 Q Okay. Was that envelope marked by you and
23 everything else?

24 A Yes, sir, it was marked by me with the laboratory
25 number and the date which it was found, and my initials.

1 Q Is that the standard procedure?

2 A That is the standard procedure, yes.

3 Q Approximately how many hours have you spent in your
4 expert analysis of this single hair?

5 A In the comparison of that single hair, with various
6 standard samples obtained about it, from the defendant, I
7 spent approximately 25 to 30 hours analyzing that
8 particular hair.

9 Q Did you have assistance in that 25 to 30 hours?

10 A No, sir. I would say 99 percent of the work was
11 done by me. However, others did observe the hair while
12 it was under the microscope, yes.

13 Q You might note to another co-worker, observe this
14 or observe that or whatever?

15 A Exactly.

16 Q Now, can you tell us of the semantics or what
17 region of the body that you concluded this hair came
18 from?

19 A Looking at the hair itself, it was very difficult
20 to determine from which area of the body it came from.

21 But it's very important to compare a hair with the
22 hair from the particular part of the body that it's from.
23 So for that reason I examined the hair and compared it to
24 samples of hair taken from the defendant's head, chest,
25 leg and pubic area.

1 Q Now, you said it's very important to examine and
2 compare the hair from the area, from the region in which
3 it was found.

4 Could you tell the jury, is there a difference
5 between different areas of the body, the hair, such as a
6 pubic hair compared to scalp or chest hair?

7 A Yes. There are numerous differences between say
8 for example a pubic hair and head hair, differences in
9 diameter and various other characteristics.

10 Q For example, type, root, whatever. What are the
11 differences?

12 A Some of the difference are in the length of the
13 hair and the type of, what is known as the medula, which
14 is a part of the hair, which is a particular cell type
15 found in hair.

16 There are certain areas of the cortex of the hair,
17 such as cortical fusi, which are almost like little holes
18 or air pockets in hair, which are more prevalent in pubic
19 than head hair.

20 Q Are they readily distinguishable?

21 A Under some conditions a head hair can be
22 distinguished from a pubic hair. However, sometimes it's
23 very difficult because of overlapping in different
24 characteristics. There is variation in head hair, there
25 is variation in pubic hair and sometimes this variation

1 overlaps. And so sometimes it's difficult to determine
2 one region from another by just looking at the hair.

3 Q What was the first type of hair I submitted to you
4 on Court ordered sample?

5 A The first sample of hair, I compared this unknown
6 sample to the submitted pubic hair of the defendant.

7 Q What is your analysis of your examinations of the
8 pubic hair with the hair found on the towel?

9 A I found that the diameter of the hair on the towel
10 was such, was smaller than that of the pubic hair sample;
11 and therefore, I determined that it did not come from the
12 pubic region.

13 Q Did the testing, based on your experience,
14 determine that the characteristics of the hair found on
15 the towel were inconsistent with that of pubic hair?

16 A That is correct.

17 Q Now, did you have an occasion to note or
18 dissimilate the racial characteristic of the hair such as
19 Mongoloid, Caucasian or Negro?

20 A Yes, I did.

21 Q Are those the three basic racial characteristics of
22 hair?

23 A Yes, sir. The Caucasian hair are hairs from Europe
24 and the middle east, areas of that type. Mongaloid hair
25 are hairs taken from the far eastern Oriental type

1 people, and also American Indians. And Negroid hair is
2 taken from Africa and places like that.

3 Q Are there differences in the characteristics of the
4 three hairs, differing in the diameter?

5 A There could be some difference in diameter.

6 Q How about cross section?

7 A The cross section is probably the most distinguish-
8 able characteristic. The Negroid hair is flatter, almost
9 ribbon shaped. Whereas the Caucasion hair is more of
10 oval shape. And Oriental is more of a circular shape.

11 Q Is there also differences in pigmentation and
12 cuticle and undulation?

13 A There are various characteristics that are also
14 used. However, as I said before, a lot of times there is
15 variation within the racial sample. And it's sometimes
16 difficult to determine, looking at one particular hair,
17 whether it is of a particular racial group.

18 Q Based on this particular hair, were you able to
19 determine the racial origin?

20 A Yes, I was.

21 Q And what was that?

22 A I found it to be of a Negroid type of a race.

23 Q Now, did you, in your 25 or 30 hours, did you have
24 an opportunity to examine the characteristics of the hair
25 used in this comparative analysis?

1 A Yes, I did. I categorized that hair, yes.

2 Q Now, if I would cover the major characteristics
3 individually, did you have an opportunity to test and
4 note the color?

5 A Yes, I did. Using a comparison microscope, I found
6 the color to be a dark brown.

7 Q Are there different shades amongst Negroid hairs
8 other than black and brown or gray?

9 A Well, there are several shades of brown that could
10 be found, also gray and perhaps a lighter brown.

11 Q Was this a match?

12 A The hair that was found on the towel was a, in
13 respect to color, was a match to the head hair of the
14 defendant.

15 Q And did you pull the hair yourself of the
16 defendant, or was it submitted to you through the
17 hospital or whatever?

18 A I did not pull the head hair of the defendant.
19 However, I was present when the sample was taken.

20 Q Where was it taken? Well, never mind. It was
21 taken in your presence?

22 A Yes, it was.

23 Q And that was the same. Approximately how many
24 hairs do you pull in each region?

25 A Approximately 50 to 100 hairs were taken from each

1 region, the head, the chest, the pubic and the chest
2 region.

3 Q And when you are discussing here and now the hairs,
4 are you discussing the characteristic comparison of the
5 hairs that were plucked from the defendant in the head
6 region and compared to the single hair found on the
7 towel?

8 A That is correct.

9 Q Did you have an opportunity to observe and
10 determine the pigment distribution?

11 A Well, yes. The pigment of a hair is the way that a
12 hair shows color. Pigment granules are found in the hair
13 and that's what gives the hair color.

14 They can be distributed in several ways. They
15 could be evenly distributed, they could be clumped in
16 various regions, they could be clumped toward the outer
17 edge of the hair or clumped towards the inner edge of the
18 hair.

19 So there is some bit of variation on the
20 distribution.

21 Q On the hair that you looked at on the towel, was
22 there any evidence of any treatment?

23 A I did not note any type of treatment on the hair,
24 no.

25 Q So that we all understand what you mean by

1 treatment, could you explain possible treatments that go
2 into a hair?

3 A There are several ways a hair can be treated and
4 that can be recognized, such as bleaching or dying or
5 permanent waving. Treatments such as that can be readily
6 seen under a microscope and identified as such.

7 Q And how about Jerry curls or this other type of
8 treatment people put in their hair themselves?

9 A Yes, that can sometimes be observed as well.

10 Q Was a treatment determined from the hair plucked
11 from the defendant or the sample?

12 A I could not detect any.

13 Q Now, did you have an opportunity to examine the
14 medula of this hair found on the towel and the hairs
15 found plucked in your presence from the defendant?

16 A Yes, I did.

17 Q Could you tell us what the determinations were that
18 you made from that?

19 First of all, tell us what the medula is in the
20 hair.

21 A A hair, in general, if I may digress a bit, are
22 formed by three basic layers.

23 The first, outer-most layer is known as the
24 cuticle area, which are approximately five to ten layers
25 of very flat transparent, translucent cells. And they

1 are formed in such a way that they form an intricate
2 pattern. They are layered on top of each other.

3 The second layer is the major part of the hair,
4 which is known as the cortex. And in the cortex is
5 consisted of a protein known as keratin, along with
6 pigment granules and that type of thing.

7 The middle inner-most layer of the hair is known as
8 the medula. The medula is an amorphous group of cells
9 running down the shaft of the hair right in the middle.

10 Q So in your observation of the shaft of this hair,
11 the medula, what did you observe?

12 A I observed that the medula in the questioned hair
13 was present or it was discontinuous. What I mean by
14 discontinuous is that the medula is usually seen as a
15 dark line running down the hair. And sometimes this
16 shaft of cells isn't seen at all in a hair. Other times
17 you can see this medula running from the tip all the way
18 down to the root of the hair so it's a continuous type of
19 medula.

20 In this particular case, I saw a combination. Most
21 of the hair had a medula in it, but there are breaks in
22 it and what is known as a discontinuous medula.

23 So that type of medula was found on the questioned
24 hair and also on the standard sample hairs from the head
25 of the defendant.

1 Q That were taken from the defendant. So the
2 possibilities are consistent line of the shaft or absence
3 of a shaft, absence of a color shaft?

4 A Correct.

5 Q Or discontinuous, a bit of the shaft, a bit of the
6 color, a bit of the shaft?

7 A That is correct.

8 Q The defendant's hair sample taken from him in your
9 presence and the one found on State's Exhibit Number
10 One--

11 A That's right, they had a similar medula type.

12 Q Have you seen all three types in hair examination?

13 A Yes, I have seen those types of medula, yes.

14 Q And in color, Negroid hair, have you seen different
15 color or treatments?

16 A Yes. There is a wide variety, yes.

17 Q Have you seen different pigment distribution in
18 hair?

19 A Yes.

20 Q Tell us about the root of the hair.

21 A The root of the hair is what anchors the hair to
22 the head. It is known as the follicle of the hair. And
23 it can take several forms, one of which is a, has the
24 appearance of a bulb. It is kind of a circle and it
25 takes on the appearance of a bulb.

1 The next is elongated and takes on the appearance
2 of a ribbon shape. And those are two basic forms of a
3 root.

4 Q Have you ever heard of them as described as like an
5 onion or like a carrot? The one like a bulb as the onion
6 type and the longer ribbon type would be the carrot?

7 A I've never heard that terminology, but it's similar
8 to that, yes.

9 Q So what type did he have?

10 A He had a bulbous type of a root. Both the
11 questioned hair and also the standard hair sample from
12 the head of the defendant.

13 Q Now, as to the minor characteristics of a hair, did
14 you have an opportunity to also observe those?

15 A Some of them, yes.

16 Q And did you notice the pigment sizes on the hair?

17 A Pigment size is a fairly relative type of a
18 reading. Basically you can take a reading, you can
19 measure the size.

20 However, in this case I just basically looked at
21 the pigment granules and determined that they were
22 approximately of an average size. And the pigment size,
23 the granule size of the defendant's standard sample from
24 his head was consistent with the relative sizes of the
25 pigment granules found on the questioned hair.

1 Q Can you tell us what the vacuoles are?

2 A Vacuoles, also known as cortical fusi are little
3 pockets in the hair that are either filled with air or a
4 liquid. And they are seen under the microscope and they
5 can be compared. And I observed some of these cortical
6 fusi in the defendant's standard head hair sample and
7 also in the questioned hair. And they were found to be
8 similar.

9 Q Did you have an opportunity to examine the cuticle
10 margin of the hair?

11 A Yes. Again, the cuticle margin is the outer area
12 of the hair and due to these cells being laid on top of
13 one another, they form an edge.

14 If you would look at, for example, a woolen hair
15 from a sheep, you would see that there is a very
16 serrated, almost like a saw-tooth appearance to the hair,
17 due to the edges of these different cuticle cells.

18 However, in human hair, that type of a serration or
19 saw-tooth appearance is very, very less pronounced,
20 unless the hair is treated in some way. And I observed
21 this particular cuticle margin on both the questioned
22 hair found on the towel and also on the standard head
23 hair sample of the defendant. And again, these were
24 found to be similar.

25 Q Now, referring to the tips of an individual's hair,

1 do the tips vary from person to person?

2 A They could, yes.

3 Q And what are the possible tip variations?

4 A A tip can take on several characteristics. If it
5 is uncut it has a natural taper which kind of tapers into
6 a point. Or if the hair is cut you could see an angle by
7 which it was cut, either by a razor or clippers or
8 whatever. Sometimes the edge is blunted or sometimes the
9 ends are split.

10 And there are various types of combinations of
11 tip types. It could also be singed. If there was an
12 excess of drying and heat, such would cause the tips to
13 be hinged a little bit. So you could tell that also.

14 Q In this instance did you have an occasion to note
15 the similarities or dissimilarities of the tip types
16 between the two hairs?

17 A Yes, I did.

18 Q And what was that?

19 A I found that both the questioned hair and many of
20 the hairs from the standard hair sample of the defendant
21 were found to have a natural taper to them.

22 Q Now, based on these various comparisons of the
23 major and minor characteristics of the hair used in your
24 comparative analysis, were you able to reach a conclusion
25 based on your experience, your training and your

1 education, between the standard sample taken from the
2 defendant in your presence and the hair that you found on
3 State's Exhibit Number 1?

4 A Yes, I can.

5 Q And what is that, what is your opinion?

6 A My opinion is that the hair found on this
7 particular towel is consistent with the head hair
8 standard sample taken from the defendant in my presence.

9 Q Now, Mr. Serowick, so we understand your opinion
10 and your testimony, is it possible by todays scientific
11 standards to determine with certainty whether an
12 individual's, whether two individuals' hair matches?

13 A No, there is no way that I could look at a hair and
14 then look at a hair sample and say that this particular
15 hair came from this person and no other; to the exclusion
16 of all else. There is no way scientifically at this
17 point through microscopic comparison to individualize any
18 hair whatsoever.

19 Q The most you can have is that they are dissimilar
20 and similar in the manners you have described?

21 A That is correct.

22 Q Now, have you in your testing, education or
23 training also taken hairs from one individual, find that
24 there can even be dissimilarities from the hairs on the
25 same individual on a standard controlled testing?

1 A Yes, that is correct. Hairs are, have a highly
2 variable range of characteristics. Two hairs taken from
3 any one person may have dissimilar characteristics in
4 medula or diameter or any of the other types of
5 characteristics that I've discussed.

6 What you are interested in is looking at the
7 variation of a standard sample and seeing, determining if
8 the questioned hair follows within that sphere of
9 variability, if the questioned hair falls into that
10 spread of variability. Because as I said, different
11 hairs from the same person may indeed have different
12 characteristics. But it's the patterns and it's the
13 variations that we are looing for when examining hair.

14 Q Now, for the sake of example for the jury, if we
15 were in your laboratory and the jury was present and we
16 walked up to Detective Zbydniewski and plucked two hairs,
17 two off the top of her head and handed them to you, or
18 you plucked them yourself and put them under your
19 microscopic analysis and all the testing procedures, and
20 it was within all of our sight here, would you be able to
21 scientifically state a conclusion under the standards
22 prescribed by that science, with a certainty that those
23 two hairs came from the same individual?

24 A Unless I actually saw them plucked from the same
25 individual, I could find they were similar in the

1 characteristics, but I couldn't say they matched, that
2 they were coming from the same individual.

3 Q It's a possibility of two hairs matching from two
4 different individuals?

5 A There have been several studies into that
6 particular question. And to be honest, there is not a
7 lot of consensus to that question. However, various
8 studies have done, I recall a study that said one in
9 40,000 would be a pretty good estimate.

10 Q Do different studies differ on the number, the
11 remoteness, one in 20,000 or one in 40,000 or one in
12 80,000?

13 A It would depend on the type of test they made and
14 how viable the study is. There have been a number, and
15 this is what they came up with.

16 Q Is the possibility that two hairs from two
17 different people having two characteristics in the major
18 categories as being extremely remote?

19 A It would be very difficult to find that, yes.

20 MR. MCGINTY: Thank you. No further
21 questions.

22 THE COURT: You may cross examine.

23 MR. DRAPER: Thank you, judge.

24 - - - - -

25

CROSS EXAMINATION OF JOSEPH SEROWICK

BY MR. DRAPER:

Q Good afternoon, Mr. Serowick.

A Good afternoon, sir.

Q Let me start off by saying, I'm Jim Draper, and Mr. Chavers and I represent this young man. Since my level of sophistication regarding hair is not very good and I want to understand what you are saying, I have some questions for you.

You are saying that there were some similarities with at least one controlled sample, and that you took several samples from this young man; is that correct?

A That is correct. I took a sample from his head, his chest, his pubic area and his leg.

Q And they were submitted to you on at least two different occasions?

A They were submitted on two different occasions.

Q Which partly accounts for this 30 hours that you spent with one hair, looking at different samples and comparing them to your control sample?

A I compared the control hair to different samples.

Q After the hairs were brought to you, you knew they were voluntarily given to you, don't you?

A Yes.

Q Incidentally, after comparing all of that, your

1 conclusion here is that they are similar?

2 A That's correct.

3 Q And you are not telling the ladies and gentlemen of
4 the jury that the hair that was in that control and the
5 hair you took from this young man's chest and from his
6 head -- wherever you got them -- you're not saying they
7 are the same, are you?

8 A As stated, it would be impossible to individualize
9 a hair in that manner.

10 Q Impossible as relates to comparison techniques?

11 A Excuse me?

12 Q Impossible as it relates to comparison techniques?

13 A By the way I compared it, it would be impossible.

14 Q The way you compared it. But the way you compared
15 it is not the only way scientific tests can be performed?

16 A There are other tests.

17 Q And you have heard of DNA fingerprinting?

18 A Yes, I have.

19 Q And experts in that field suggest that it's almost
20 one hundred percent accurate.

21 A That's correct.

22 Q You didn't do that, did you?

23 A I did not compare the hairs in that manner, no.

24 Q All right. Let me ask you, Mr. Serowick, to tell
25 us -- incidentally, before I get into that -- now you are

1 talking about comparison and basically you are talking
2 about looking at hairs under a microscope?

3 A That's correct.

4 Q Two hairs juxtaposed to each other?

5 A Well, using a comparison microscope.

6 Q Now, you are forensic personnel, aren't you?

7 A Yes, I am. .

8 Q Before we get much further in this, you didn't
9 examine any fingerprints that were lifted from any crime
10 scene connected with this case?

11 A I don't analyze fingerprints as part of my job, no.

12 Q To your knowledge, anybody in your SIU unit do any
13 such test?

14 A I would have no knowledge one way or the other
15 whether they were analyzed or not.

16 Q As far as you know it didn't happen?

17 A I don't have any knowledge either way.

18 Q Do you anticipate anybody coming in here to testify
19 or not?

20 A I don't know.

21 Q Could you find out?

22 A I could find out.

23 Q Would it be very difficult to find out?

24 A I could ask my supervisor. That would be simple
25 enough.

1 Q Now tell us, Mr. Serowick, how specimens get into
2 your hands.

3 A Which specimen, sir?

4 Q Any specimen. You don't go out and investigate, do
5 you?

6 A At times I do, yes.

7 Q You didn't go out on this case, did you?

8 A No, not -- to clarify, I was present at the taking
9 of the standards of hair from the defendant. I was
10 present at the time, and the hair never left my custody
11 at any time.

12 Q Mr. Serowick, did you go to Cleveland Clinic on May
13 29th or any date thereafter and investigate this case?

14 A No, I did not.

15 Q That's what I'm talking about. I don't want to
16 play games. I'm asking you simple questions about your
17 investigation.

18 MR. MCGINTY: Objection.

19 Q Did you go out in the field and investigate this
20 case? Did you go to the Cleveland Clinic?

21 A No, I did not.

22 Q I'm just asking you. Tell the ladies and gentlemen
23 how you got the evidence. That's simple enough, isn't
24 it?

25 A The evidence was collected by either a patrolman or

1 our detective unit, placed in a property envelope, and a
2 tag was made for that particular piece of evidence. And
3 it was either brought to the property unit which
4 transferred it to us, or the detectives transferred it to
5 us. Personally I'm not sure which.

6 Q I see. Do you have your lab card with you?

7 A No, I do not.

8 Q Well, is it in the courtroom? Do you have a copy
9 of your lab card?

10 MR. McGINTY: Where do you have them?

11 Q Would you get it so we can talk about it?

12 A Absolutely.

13 Q As a matter of fact, we will get all your cards
14 with this thing. Now, you gave the ladies and gentlemen
15 of the jury lab number 248836; is that correct?

16 A That is correct.

17 Q And that's the lab number that you have been
18 testifying about in here today?

19 A Part of it, yes.

20 Q Part of it? Tell the ladies and gentlemen what
21 248836 purports to be; what specimen, what evidence you
22 got and assigned under that name, under that number?

23 A Under that particular number the following was
24 included. One multi-brown colored comforter from a bed.
25 One white washcloth, which is this. One pair of light

1 green panties. One set vaginal swabs. One tube of
2 urine. One tube of blood. One envelope containing hair
3 samples. And one chux. A chux is a piece of hospital
4 linen that is placed under the patient for examining
5 purposes.

6 Q Mr. Serowick, we could be a little more specific, I
7 suspect. Let me show you what has been marked as State's
8 Exhibit Number 2. Is that the comforter that you talked
9 about? Does it look like it?

10 A Sir, I'll be honest, I don't recall what the
11 comforter looked like. It was just a multi-colored
12 brown.

13 Q You said in your report it came from where?

14 A I don't know where it came from, sir. It was
15 submitted to me. I did not have any firsthand knowledge
16 of where it came from, sir.

17 Q You saw it, you examined it?

18 A Yes, I did, sir.

19 Q What would you stylize, what would you characterize
20 a comforter to be?

21 A A bedspread-type of thing.

22 Q You examined this bedspread, this brown comforter,
23 didn't you?

24 A I examined the brown comforter, yes.

25 Q Did you find any hairs on it?

1 A No, I did not.

2 Q Any pubic hairs?

3 A No, I did not.

4 Q Any chest hairs?

5 A No, I did not.

6 Q Any head hairs?

7 A No, I did not.

8 Q All right. Your card says, does it not, that a
9 hair was found in the crouch area of the panties, stains
10 in the crouch of the panties and on the washcloth?

11 A That's what it says, sir, yes.

12 Q And tested positive for seminal fluid?

13 A That is correct.

14 Q But you don't have, you haven't seen the panties in
15 here, have you?

16 A I have not seen the panties here in the courtroom,
17 no.

18 Q I see. I see you haven't. Tell me about that
19 seminal fluid on that washcloth that you identify as
20 being the one that you examined. With what degree of
21 certainty can you say they came from the same person?

22 A I have, I would have no way of knowing. They came,
23 they are both Type B, which is approximately 16 percent
24 of the population.

25 Q Well, we are going to get to Type B and 16 percent

1 of the secretors. But your answer is you can't tell, can
2 you?

3 A I can't tell which. I can't tell if they were the
4 same, no.

5 Q And I don't care what percentage of the population
6 or what the race is, there are secretors and nonsecretors
7 in all races?

8 A That is correct.

9 Q There are people with B antigens in all races?

10 A That is correct.

11 Q But you didn't determine from that whether the
12 antigen was positive or negative, did you?

13 A The what?

14 Q The antigen.

15 A It's not positive; A, B or O.

16 Q So it's neutral?

17 A It's B.

18 Q Does not blood have a negative or positive
19 characteristic?

20 A That would be another type, that would be another
21 blood type known as the RH type.

22 Q You didn't go as far as getting an RH fluid?

23 A There is no RH in seminal fluid, just blood.

24 Q I'm asking you, Mr. Serowick, you have testified 20
25 times in court and you have your B.A. and your Masters in

1 hair or whatever, hair testing or whatever. I'm asking
2 you, it could be positive or negative, couldn't it?

3 A That's correct.

4 Q So the seminal stains that you talk about in your
5 report that we don't have in here, in this courtroom,
6 could have come from two different individuals, couldn't
7 it?

8 A They could have, sure.

9 Q It could have been from sexual activity with
10 husbands, boyfriends, anybody in the world, and an
11 alleged attacker, couldn't it?

12 A That's correct.

13 Q Now, you got a rape kit from Mt. Sinai Hospital,
14 didn't you? Didn't you have a rape kit?

15 A I received a rape kit. I don't recall whether it
16 was from Mt. Sinai or not, sir.

17 Q Let me just suggest to you that this young lady
18 indicated she went to Mt. Sinai Hospital and that's where
19 you would have gotten it from if that's where she went.

20 A That's right.

21 Q And you examined that?

22 A Yes.

23 Q Wet vaginal swabs and all that kind of thing; it
24 was in a rape kit?

25 A That's correct.

1 'Q Any of this seminal fluid that you talk about on
2 this wash towel, that wasn't found at the hospital, was
3 it?

4 A No, it was not.

5 Q So it didn't corroborate what you found?

6 A No, it did not.

7 Q And Mr. Serowick, this cloth here -- incidentally,
8 that wasn't brought to you by the clinic police, was it
9 Officer Beck?

10 A That was brought to me by a patrolman Berner.

11 Q So that was Cleveland Police that brought that to
12 you?

13 A I would assume so, yes.

14 Q Not the clinic police, all right. Now, tell me
15 this, did you retrieve the hair from this washcloth?

16 A Yes, I did.

17 Q And hold that up for me, please, because your
18 expertise is far greater than mine in this.

19 These three layers where you have the holes in that
20 would come from your testing, I take it?

21 A That would come from the testing of the seminal
22 fluid, yes.

23 Q And you cut whole pieces out of that?

24 A That's correct.

25 Q Now, where would the hair have been found?

1 A I don't recall where I found the hair on the towel.

2 Q Now, you don't recall where you found the hair on
3 the towel?

4 A But it was on the towel.

5 Q But it wasn't a pubic hair?

6 A I didn't -- it was not, no, sir. I don't know, it
7 could have --

8 Q Well, wait a minute.

9 A It did not match the pubic region of the defendant.

10 Q I do know that much about the law of exclusion; a
11 thing either is or isn't. Didn't you testify to the
12 ladies and gentlemen of the jury that it was not pubic
13 hair?

14 A That is correct.

15 Q If you want to maintain that this young man was a
16 person who was the assailant, it certainly wasn't his
17 pubic hair, was it?

18 A It was inconsistent with his pubic hair, yes.

19 Q So if somebody wiped a pubic hair, again in your
20 expertise, wiped a pubic region hair with that cloth, and
21 somehow miraculously one pubic hair was imbedded in the
22 cloth, it certainly wasn't his pubic hair that was
23 imbedded in the cloth?

24 MR. MCGINTY: Objection. Commentary.

25 THE COURT: Overruled. He may

1 answer.

2 A I lost my thought.

3 Q It wasn't his pubic hair, was it?

4 A No, it was not.

5 Q So no hair from the comforter, and I take it there
6 certainly wasn't any from the panties, as best you can
7 recall?

8 A There was a hair found on the panties, yes.

9 Q It wasn't Negroid hair, was it?

10 A No, it was no.

11 Q So we can cross that one out. Vaginal swab was
12 negative for semen?

13 A That is correct.

14 Q And an envelope containing hair evidence that was
15 submitted to you on May 31, 1988 -- you see that
16 notation? Along with this other list of things?

17 A Yes, sir.

18 Q It says, hair from washcloth delivered on this
19 date. And what is that name on there?

20 A Oh, okay. The hair found on the washcloth was
21 turned over to Donald Nitskoff, which is an independent
22 analyst, who was going to analyze the hair and the
23 samples from the defendant.

24 Q I see. Now, what I'm getting at, that clears that
25 up for me, thank you, Mr. Serowick.

1 But in your papers there, don't you show -- read
2 the list with me, if you have it there. One chux.

3 That's what you explained to the ladies and gentlemen?

4 A That's correct.

5 Q And one envelope containing hair evidence?

6 A That's correct.

7 Q What I'm trying to find out is what hair evidence
8 is that that was in that envelope.

9 A Okay. When in Mt. Sinai, when they collect a rape
10 kit, they collect a pubic hair sample from the victim and
11 they place it in an envelope. Sometimes they pluck the
12 hairs, other times they clip the hairs. Or sometimes
13 they comb the pubic area of the victim to see if there
14 are any loose hairs that may have been deposited by the
15 suspect.

16 Q So the combing of the vaginal area, wouldn't you
17 agree that it would be far more likely to find hair that
18 was deposited after some act such as vaginal intercourse
19 as opposed to some fortuitous piece of hair that falls
20 down on a towel that you could find? Isn't that the
21 purpose of combing the vaginal area?

22 A Yeah. The purpose of combing the vaginal area is
23 to see if there are any loose hairs that may have been
24 deposited by the perpetrator.

25 Q Well, since we didn't find any on the comforter,

1 tell the ladies and gentlemen how many hairs you found in
2 the hair sample you got from the victim.

3 A I did not analyze it.

4 Q Analyze it or not, you know there were no hairs
5 found.

6 A I don't know, sir.

7 Q You anticipate anybody from your unit is going to
8 come in here and testify about it?

9 A Excuse me. The hair?

10 Q Yes.

11 A I don't recall whether there was hair or not.

12 Q You are the hair specialist at Cleveland Police
13 SIU?

14 A That is correct.

15 Q Anybody test it, it would be you?

16 A That's correct.

17 Q They certainly wouldn't give it to Miss Reed?

18 A No, certainly not. I looked at it. I don't recall
19 if there was hair there or not.

20 Q So your towel test turned out to be your naked eye
21 with the hair that you found imbedded somewhere on the
22 washcloth, right so far?

23 A My naked eye, sir? I don't know.

24 Q The first part of the test is you looked with the
25 naked eye?

1 A Yes. The first part of the test is looking with
2 the naked eye.

3 Q When you are looking with your eye is when you
4 found the stains?

5 A That's correct.

6 Q Now, Mr. McGinty asked about whether the likelihood
7 of two individuals matching. Do you remember that line
8 of questioning just before he was done with you?

9 A Yes. I do.

10 Q And quite candidly you indicated that -- this might
11 be maybe a proper euphemism -- the jury is out on that?

12 A Using microscopic methods you cannot individualize
13 hair, no.

14 Q One set of forensic scientists would say yes and
15 some would say no. And I suspect the truth would be
16 somewhere in between, but we don't know.

17 A On the individualization question?

18 Q Yes.

19 A We're working on it, but it's very difficult.

20 Q I know you are working on it. I don't intend to
21 question that.

22 You don't know in fact, for these ladies and
23 gentlemen of the jury having to decide this important
24 question here and now, on that question the jury is out.

25 A I can't determine that.

1 Q Of course you can't. I appreciate that.

2 Okay. Let me talk to you about the semen. Now,
3 there is semen stains on the panties. We don't know who
4 that belonged to. And there are some semen stains on
5 that towel?

6 A Yes, there are seminal stains found on both the
7 towel and the panties, yes.

8 Q Now, you talk about secretor and nonsecretor. So
9 that I can understand you, and I think I did, if I'm a
10 scretor, though any number of my body fluids you can
11 determine the antigens in my blood?

12 A Your ABO type, that's correct.

13 Q Yes, my ABO. If I'm a nonsecretor you have got to
14 have the blood?

15 A If you're a nonsecretor, there are no ABO antigens
16 there.

17 Q Secretors are one out of --

18 A Four out of five, 80 percent secretors, and so 20
19 do not.

20 Q And the B-positive, we don't know this RH factor.
21 I sound intelligent, but we don't know whether it was
22 positive or negative?

23 A No, we don't know the RH, no.

24 Q But the antigen, of those that have the BH antigens
25 are not as common as those that have O, for instance, or

1 some other?

2 A That's correct. The H antigens or just the O's are
3 much more common than the B's.

4 Q And on the black males, it's about 20 percent of us
5 that have the B antigens?

6 A Yes.

7 Q I have B antigens. I know about B antigens. So
8 out of a thousand, 200 would have it?

9 A That's correct.

10 Q So we are not talking about some miniscule number,
11 but it is less than the whole?

12 A That's correct.

13 Q One moment, please.

14 THE COURT: Take your time.

15 MR. DRAPER: Thank you, your Honor.

16 Q So let me just go back through. Incidentally, you
17 have three holes cut out there. What do they represent,
18 Mr. Serowick?

19 A They represent the --

20 Q On the washcloth?

21 A On the washcloth they represent the areas where I
22 cut out when I was analyzing the towel for the P-30 and
23 the A.I., et cetera.

24 Q When you did the P-30 and the A.I., again you are
25 dealing with the seminal fluid?

1 A That's correct.

2 Q Did you cut out all the areas that had the possible
3 seminal fluid?

4 A No, I did not.

5 Q If you look at the towel you can see some
6 discoloration still? I don't know what I'm looking at,
7 but there might be some still in there; is that what you
8 are saying?

9 A That's correct.

10 Q Now, let me go through this again. On May 31st is
11 when you got the chux, envelope containing the hair
12 evidence from the hospital, tube of blood, tube of urine,
13 one wet vaginal swab, one pair of light green panties.
14 They weren't yellow? Light green?

15 A No.

16 Q One white washcloth and one multi-brown colored
17 comforter?

18 A That's correct.

19 Q And out of that evidence you found a hair that was
20 somewhere imbedded in that washcloth; am I correct?

21 A That is correct.

22 Q And then after that -- that was May 31st?

23 A That is correct.

24 Q And now on June 6th you received blood and saliva
25 samples from Anthony Green?

- 1 A That is correct.
- 2 Q Then on June 8th you received another sample of
3 saliva from Anthony Green?
- 4 A No, sir. That particular saliva sample was taken
5 from [REDACTED]
- 6 Q Oh, I see. That's when you found out she had B
7 antigens also?
- 8 A That is correct.
- 9 Q Now, we are to August. August 5th you got another,
10 you got a pubic hair sample from this young man?
- 11 A That is correct.
- 12 Q And you were able to find out, to a fair degree of
13 certainty that that wasn't the pubic hair, at least it
14 didn't match his pubic hair?
- 15 A That is correct. There were some
16 uncharacteristics.
- 17 Q That's like DNA fingerprinting, he couldn't change
18 his?
- 19 A No, it's not like DNA fingerprinting. DNA
20 fingerprinting individualizes a person and hair has
21 different characteristics, so it's not an individualized
22 thing.
- 23 Q Okay. It's not individualized, but certainly he
24 can't change the character of his hair.
- 25 A No.

1 Q If he tried to with some chemicals, you could
2 detect that?

3 A If he attempted to change his hair, I would be able
4 to see it.

5 Q The pubic hair, at least it wasn't his. That was
6 on August 5th. And then you got another set of hair from
7 various other places, right; head?

8 A Yes.

9 Q Chest?

10 A Head, chest, et cetera.

11 Q This is the testimony that you were having with Mr.
12 McGinty here when you talked about the hair was found to
13 be similar in size and construction to the known hair
14 sample?

15 A Of his head.

16 Q But inconsistent in several others?

17 A Right.

18 Q Oh, I'm sorry, I went to another card. that's the
19 other card. The pubic hair was inconsistent.

20 Now, you are telling the ladies and gentlemen that
21 there are some similarities?

22 A With the head hair, yes.

23 Q And there is a possibility, Mr. Serowick, that
24 there is a guy that is running around out there now that
25 has similarities, isn't it a possibility?

1 A Sure.

2 Q Very good possibility.

3 A Anything is possible, sir.

4 Q Surely, sir.

5 MR. DRAPER: Thank you very much.

6 THE COURT: Are you going to be long?

7 MR. MCGINTY: Ten minutes, your Honor.

8 THE COURT: It's a good time for a
9 break.

10 Ladies and gentlemen, you are admonished
11 not to discuss the case among yourselves or allow
12 anyone to discuss it with you. You are not to form
13 or express any opinion on the case at this time.

14 We will recess for ten minues.

15 (Thereupon, a recess was taken.)

16 - - - - -

17 THE COURT: All right. You may
18 redirect.

19 MR. MCGINTY: Thank you, your Honor.

20 REDIRECT EXAMINATION OF JOSEPH SEROWICK

21 BY MR. MCGINTY:

22 Q Mr. Serowick, I submitted to you a sampling of the
23 pubic hair of the defendant or had you pluck it or
24 whatever at the end of July, beginning of August;
25 correct?

1 A Let me just be sure here.

2 Q The first sample.

3 A It was the 5th of August at the time, yes.

4 Q Was it the 5th of August you analyzed it or the 5th
5 of August it was given to you?

6 A It was given to me on the 5th of August.

7 Q And was the first sample only pubic hair?

8 A The first sample was only pubic hair.

9 Q And did you examine that pubic hair and compare it
10 to the known samples?

11 A Yes, I did.

12 Q I'm sorry, that's confusing. Did you compare the
13 pubic hair samples that were taken from the defendant to
14 the single hair that was found on the towel?

15 A Yes, I did.

16 Q And what conclusion did you reach, what did you
17 tell me or what test did you send over?

18 A I found that while the hair on the towel was
19 consistent in some ways to the pubic region, it was
20 inconsistent in others; and therefore, I could not put
21 it, I could not find it similar to the pubic sample.

22 Q Okay. So did you request other hairs from me at
23 that point from other regions of the body?

24 A Yes, you did.

25 Q From your first analysis did you suspect it was a

1 pubic hair of the defendant's that you had? I mean, from
2 your analysis of the hair found on the towel and the
3 analysis of the pubic hairs, did you suspect that it was
4 not a pubic hair that was on the towel.

5 A I thought that maybe it may be a hair of some other
6 semantic origin.

7 Q So did you request hairs from the other semantic
8 region of the body?

9 A Yes, I did.

10 Q Now, your conclusions that you reached are the ones
11 you told us earlier about the hairs and the consistencies
12 in all characteristics?

13 A That is correct.

14 Q And you know that we give test samples or copies of
15 the test to the defense and that's what they are
16 referring to, the state does, as they conduct their
17 examination?

18 A That is correct.

19 Q Now, we heard a number of questions about DNA and
20 DNA testing and DNA fingerprints. And we heard from the
21 defense counsel if there was a conclusive test then the
22 jury wouldn't have to think at all, they would know
23 conclusively whether it was him or it wasn't him,
24 correct?

25 A I would say so, yes.

1 Q If there was a DNA fingerprint so-called test,
2 there would be conclusive ability, wouldn't there, to
3 know?

4 A It would be an individualization, yes, it would.

5 Q Now, DNA testing, explain that a little bit to the
6 jury, and what the so-called DNA fingerprint is.

7 Now, a year ago or I'd say several years ago, did
8 you ever hear of DNA fingerprints? Was the term ever
9 used?

10 A As of when I graduated from graduate school back in
11 '86, they still, there was no mention of that in my
12 course work at all.

13 Q It's a recent phenomenon, is it not?

14 A Yes, it is.

15 Q First of all, do you know of a single criminal case
16 in the City of Cleveland, or using the Cleveland Police
17 where any DNA testing has ever been done?

18 A No. The Cleveland Police Department has never
19 utilized DNA typing at all.

20 Q Do you presently have the capability of doing DNA
21 typing?

22 A Our laboratory does not have the capability.
23 However, we can send it to a commercial laboratory for
24 analysis.

25 Q In fact, are you and I involved in that in the

1 first case ever in the history of this county?

2 A Yes, we are.

3 Q Now, does DNA require blood for the DNA testing of
4 the original sample?

5 A I'm sorry?

6 Q When we go to DNA, are we talking about a DNA
7 testing coming from a testing of blood?

8 A It could come from a testing of any cellular
9 material, blood, semen, any type of cellular material.

10 Q But you heard the 100 percent probability cited by
11 the defense counsel, is it in fact a 98.7 percent
12 probability, even at DNA testing?

13 A Yeah, it's not 100 percent. At this point there is
14 still some room for experimental error.

15 Q So even with a DNA testing, if there was DNA
16 testing, if there was one capable on this type of case,
17 that there would still be room for error, it would still
18 be possible that two people could have the same type of
19 DNA typing?

20 A It would be much more remote, but yes, it would be.

21 Q So the possibility always exists in these cases, we
22 are dealing with probabilities?

23 A Right, probabilities. Nothing is absolute.

24 Q Tell the ladies and gentlemen how many cases in the
25 history of the State of Ohio have used DNA sampling with

1 blood samples?

2 A I'm aware of only one.

3 Q And was that within the last month?

4 A Yeah, it was very recent.

5 Q And as the samples that are done, first of all, do
6 they hav to be sent out of state in the single laboratory
7 in the United States that is capable of doing the DNA
8 testing at this point?

9 A They have to be sent out of state. There are
10 several laboratories.

11 Q There are several?

12 A Yes.

13 Q Where are they located?

14 A One is in Maryland, one is in New York. And there
15 is a third one in California.

16 Q And the one outside Washington, D.C., in Maryland,
17 do you know, is it a very expensive test?

18 A It's extremely expensive.

19 Q And does it require fresh blood taken from both the
20 victim and the defendant?

21 A Yes. The known standards are taken as blood.

22 Q And how many samples a year or how many possible
23 sex case analyses take place in the Cleveland Police
24 Department per year, approximately?

25 A If I recall, last year we processed over 600 rapes.

1 So that's --

2 Q And are there different samples taken?

3 A And there are different samples for each case.

4 Q Are there hundreds if not thousands of gross sexual
5 imposition type offenses?

6 A Yes, numerous.

7 Q So are we dealing in the thousands when we are
8 dealing with numbers of samples?

9 A Yes. Because each case has several samples to
10 them. So we would be talking several thousand samples
11 per year.

12 Q Are we dealing with those costs that are in several
13 hundred or \$500 range per testing?

14 A Yes. I believe one analysis of a particular
15 sample, whether it be an unknown standard or known
16 standard would be to a cost of \$585.

17 Q So if we did a thousand of those tests, how many
18 policemen would we bring off the street in the City of
19 Cleveland if we maintain the same budget?

20 A I wouldn't know that. But it would be several.

21 Q But it would be an expensive test?

22 A It's extremely expensive.

23 Q Now, you were asked questions about the
24 fingerprints and you have no expertise in fingerprints,
25 do you?

1 A No, I do not.

2 Q Are you aware that three latent fingerprints were
3 lifted from the scene and do not match the defendant?

4 A I was aware of that.

5 Q From a mirror or other surface areas, okay. Are
6 you aware that fingerprints can last on a scene for
7 years?

8 MR. DRAPER: Objection. He expressed
9 no expertise.

10 THE COURT: That's true.

11 Q Sir, are you aware if you touch that counter, a
12 year from now your fingerprint may still be there?

13 MR. DRAPER: Objection.

14 THE COURT: Sustained.

15 Q Now, regarding the panties we heard the coloring
16 question by the defense counsel, what color? You said
17 light yellor on your sheet?

18 A I said light green, sir.

19 Q What color does it also resemble?

20 A It was a lightish, it was a pastel kind of a
21 greenish, a yellow, green type of a thing.

22 Q Now, you were asked whether there was a hair found
23 by the defense counsel, but he stopped you when you
24 attempted to say what type of hair or whose hair it was.
25 Did you have an opportunity to observe that hair?

1 A Which hair was that?

2 Q The hair found on the light yellow or greenish
3 panties.

4 A Yes, I did.

5 Q And what type of hair was that?

6 A It was found to be a caucasian hair.

7 Q From what region of the body was that hair?

8 A I would have to look at it again. But since it was
9 in the panty area, I would assume it was a pubic hair.

10 Q Did it match the color and general type of the
11 victim, [REDACTED]?

12 A I don't know. I did not receive a hair sample from
13 her.

14 Q Did you have an opportunity to, was it a caucasian
15 hair?

16 A I would say so, yes.

17 Q And you didn't look at, then you didn't bother
18 taking the hair sample from the Mt. Sinai rape kit and
19 compare it to the panty?

20 A No.

21 Q You didn't do that, okay. Now, you described
22 seminal fluids and vaginal fluids. Do vaginal fluids
23 flow from a female in a downward fashion?

24 A Yes, they do. The vaginal secretion would be
25 secreted by the female.

1 Q Now, you were questioned about the rape kit. Sir,
2 were you aware that this individual female rape victim
3 testified that she scrubbed --

4 MR. DRAPER: Objection.

5 THE COURT: Approach the bench.

6 (Thereupon, a discussion was had at the
7 side bar and off the record.)

8 - - - - -

9 THE COURT: The objection is with-
10 drawn, you may proceed.

11 Q Sir, you were asked a number of questions about the
12 rape kit and the testing at Mt. Sinai, and are you
13 familiar with Mt. Sinai's procedures?

14 A I've received several kits from them, but as far as
15 how they do their testing, I have never witnessed it.

16 Q You were asked about a combing and a sample and you
17 had a list of items that they submit in the rape kit.
18 You called one item a hair sample. Do you recall what
19 I'm talking about?

20 A Yes, sir. There was an envelope containing hair
21 evidence.

22 Q Is that obtained from a combing of the victim?

23 A I don't know whether it was a combing or a
24 plucking. I'm not sure which one. But I would have to
25 look at it again.

1 Q Whichever. But if a victim washed herself and
2 scrubbed her crouch area twice before submitting, before
3 going to the hospital or calling the police, then that
4 would be of little or no help, would it, sir?

5 A Obviously if she had washed herself and scrubbed
6 herself it would be a lot less likely that there would be
7 any type of evidence remaining in her crouch area.

8 Q Now, as to the chux, is the chux a sheet that goes
9 under the woman when a pelvic examination is taking
10 place?

11 A That is the way I understand it, yes.

12 Q And when the combing is taking place, or the
13 examination, any hair that would fall from a pubic region
14 would hopefully fall on to the chux and be collected?

15 A That is correct.

16 Q Would that, sir, serve any purpose if again, the
17 woman scrubbed herself twice in a bathtub and washed
18 herself down thoroughly before going to the hospital for
19 this rape kit?

20 A It would be much less likely that there would be
21 anything there.

22 Q Now, we also have a tube of blood and a tube of
23 urine which can be used to determine a blood type?

24 A The blood can, yes.

25 Q Also a wet vaginal swab. Now, sir, if a rape

1 victim goes to the hospital without washing, is it
2 possible from the vaginal swab to take a seminal fluid
3 from the interior of the woman for later testing as to
4 blood type?

5 A Yes. That's how it is done a lot of times, yes.

6 Q Is it far less likely if a woman has washed and
7 indeed put soap inside herself and washed, being
8 disgusted with what happened?

9 A It would be much less likely you would find any
10 evidence in a rape kit after a woman had washed herself
11 in such a manner.

12 Q Now, the question regarding the hairs in defense
13 counsel's question, there is a possibility that it could
14 be -- the possibility question.

15 Is it possible if Detective Zbydniewski went over
16 and plucked two hairs from Mr. Draper's head, handed them
17 to you, or 50 hairs in one envelope and one hair in the
18 other and analyzed them, though you don't see the
19 plucking, and it's meticulous, the manner in which the
20 evidence is handled and it's taken to you; would it be
21 possible for you to conclusively determine and
22 conclusively state by the scientific standard to which
23 you are limited, that those hairs definitely match?

24 Would you ever under any circumstances be able to
25 say that the 50 hairs and the one hair came from the same

1 head?

2 A No, I wouldn't be able to say that. No.

3 Q So no matter how it happens and what the tests are,
4 all you can do is discuss possibilities and
5 probabilities; is that correct, sir?

6 A That's correct. The best I could do is give you a
7 probability.

8 Q Okay. Now, you were asked, regarding on the back
9 of the lab card 248836, what the last statement was, and
10 you said it was a statement that the hair from the
11 washcloth was delivered to a Donald Nittskoff; is that
12 correct?

13 A That is correct.

14 Q And that, sir, is an expert hired by the defense to
15 examine the same hair that you did?

16 A That is correct.

17 Q And does he have a lab here in Cleveland?

18 A Yes, he does.

19 Q A private lab where he does analysis for defense
20 teams?

21 A That is correct.

22 Q And so he does his own analysis from the same
23 samples you use?

24 A That is correct.

25 Q The plucked hairs and the hairs found on the towel?

1 A That is correct.

2 Q First of all, sir, are you familiar with the fact
3 that half the population is female? Is that correct?

4 A That is correct.

5 Q So 50 percent of the population is eliminated in
6 the possibilities, right?

7 A That is correct.

8 Q Now, the secretor eliminates merely 20 percent; 80
9 percent of the people fit into the secretor category; do
10 they not?

11 A That is correct.

12 Q All right. Now, the B blood, the B category
13 eliminates approximately 80 percent of the male
14 population; is that correct? Or what percentage did you
15 use when you say 84? Are you combining secretor and B?

16 A A secretor, 16 percent of the population are B
17 secretors. Meaning 84 percent are not. So 84 percent in
18 this case could be eliminated.

19 Q Okay. Now, what percentage does the B blood type
20 alone eliminate from the secretor? It's a little lower
21 than 86 percent, isn't it?

22 A The original, yeah. And 20 percent of the
23 population are secretors.

24 Q What percentage of the population are Type B blood?
25 See what I'm looking for?

1 A Twenty percent have B blood and 16 percent are B
2 secretors.

3 Q Together it works to 86 percent?

4 A 84 percent.

5 Q Which leaves 16 percent of the population. Now,
6 the hair analysis, and you discussed fully the hair
7 analysis, does the hair analysis eliminate the vast
8 majority of the population falling into the category of
9 the same characteristics; the color, pigment
10 distribution, treatment or lack thereof, the medula
11 characteristics, the root type, the cortex texture, the
12 pigment size, the vacuoles, the cuticle margin, the shaft
13 variation and the tip type?

14 A Yes. I would say that that analysis eliminated a
15 large percentage of the population.

16 Q You term was, large percentage?

17 A That's correct.

18 Q Now, the defense counsel discussed the question of
19 good possibility. Is there a good possibility that
20 someone could have the same type of hair characteristics
21 as the hair that was found on State's Exhibit 1 by you?

22 A It's possible that somebody else could, yes.

23 Q It's possible, but is it a good possibility?

24 A I would say somewhere about -- sure, it's a pretty
25 good possibility.

1 Q Somewhere in the United States there is going to be
2 someone certainly with that hair characteristic pattern?

3 A Sure. I would say that there is a good possibility
4 that someone in this United States has a similar pattern.

5 Q Now, when you examine a case, are you confined to
6 the scientific end of your analysis of the case?

7 A When I look at a case I try to focus my attention
8 to the scientific, the objective scientific aspect of it,
9 yes.

10 Q So you are not in court when there is
11 identification or at a photo lineup or anything else, if
12 there are identifications?

13 A No, I'm not.

14 Q You are not part of the physical history to find
15 out whether the defendant had access, the defendant from
16 whom the hair sample is taken, had access to the scene or
17 knowledge to get to the scene or any of those physical
18 factors that a detective would do?

19 A No, I'm not aware of that.

20 Q Your analysis strictly is here on probabilities?

21 A Right. It's a probability on physical evidence.

22 Q And in your blood work, in your serology work and
23 the other aspect of your training, is it always a matter
24 that you testify to and you determine always a matter of
25 probabilities?

1 A That's correct. It's all based on probabilities.

2 Q You can never be absolutely certain, can you, sir?

3 A Not at this point, no.

4 Q In other words, some future date in science,
5 perhaps science will be so particular that you would be
6 able to make a scientific certainty as to serology?

7 A That is our goal, yes.

8 Q But in the state of the art right now, we are not
9 there, are we?

10 A No, we are not.

11 Q As to the possibility, sir, there is also a
12 possibility, is there not, that this building will be
13 struck by a meteor, right, over night?

14 A I would hope not, but there is a possibility, yes.

15 MR. MCGINTY: Thank you, sir, no
16 further questions.

17 MR. DRAPER: Just a couple of
18 questions.

19 THE COURT: All right.

20 - - - - -

21 RE-CROSS EXAMINATION OF JOSEPH SEROWICK

22 BY MR. DRAPER:

23 Q Mr. Serowick, other than Mr. McGinty's questions,
24 what is your base of knowledge with regard to the state
25 of the art in DNA in Ohio, in the court system in

1 particular?

2 A What is my knowledge?

3 Q Other than what he suggested in his questions.

4 A I'm a member of the Ohio Criminologists
5 Association, which is an association of all the forensic
6 serologists and all the forensic scientists in the Ohio
7 area and I am constantly in contact with these people,
8 getting updates on what they are doing in their lab, and
9 we have meetings to discuss these types of problems.

10 Q Now, based on your membership in that association,
11 that tells you how many courtrooms in this, in our great
12 State of Ohio and indeed Cuyahoga County, that DNA
13 testing has occurred; is that right?

14 A Well, I can find out, yeah.

15 Q Well, I don't want to know what you can find out, I
16 want to know what you talked to Mr. McGinty about. You
17 don't know of your own knowledge?

18 A Of what?

19 Q Of how many courtroom in this state that DNA
20 testing is being utilized; how many cases are in
21 progress?

22 A I only know one.

23 Q The one he talked about, the one you are involved
24 with with him; is that right? But you don't know what is
25 happening in Hamilton County, for instance, as of this

1 moment?

2 A No, sir.

3 Q Or Lucas County?

4 A I know there was one somewhere, sir.

5 Q Or Wood County?

6 A No, sir, I don't know.

7 Q Or you name it. All right. That explains it.

8 Now, let me ask you this; Mr. McGinty asked you
9 about the vaginal testing. You are concerned with what
10 is presented to you in your laboratory, are you not?

11 A Yes, sir.

12 Q You don't go to, you don't do pelvic exams?

13 A No, sir.

14 Q That is certainly not your area of expertise?

15 A No, it is not.

16 Q You wouldn't even purport to be an expert --

17 A No, pelvic exams is not my forte.

18 Q The physician who did the examination could come in
19 here and certainly answer some of those questions about
20 the exam, but not you?

21 A Well, the physician would be a better test of that
22 particular piece of information, yes.

23 Q Now, finally about the blood business with the DNA.
24 Isn't it a fact that one of the beauties of DNA is that
25 it can be done on basically any type of cell?

1 A Any type of cell can be used to perform DNA typing.

2 Q Hair, fingernail scraping, you name it. It has to
3 do with the soma, it can be used?

4 A Fingernails are dead cells, they are not living.
5 Therefore, they cannot be used. However, hair, if you
6 pulled the root and you have living tissue at the root of
7 the hair, you can use that. But hair itself is dead.

8 Q Mr. Serowick --

9 A Sir, you are asking me a question.

10 Q Maybe you misunderstood me. Did I not say
11 fingernail scrapings? What does that suggest to you?

12 A The cutting or scrapings of fingernails. The
13 debris found on fingernails.

14 Q Does that make sense to you in terms of DNA
15 testing, scrapings underneath the fingernails? Does it
16 make sense to you?

17 A It could.

18 Q Then you know what I'm talking about.

19 THE COURT: You may step down.

20 MR. McGINTY: Thank you, Mr. Serowick.

21 THE COURT: Call your next witness.

22 MR. McGINTY: The State of Ohio rests,
23 pursuant to the admission of the exhibits.

24 THE COURT: The jury gets an early
25 break, subject to some motions we will have.