

that Brisbois told him?

A That's correct.

MR. GROSS: That's all I have.

THE COURT: The date of all this is?

THE WITNESS: Sir, it was -- I'm not sure of this now.

MR. GROSS: I believe that was January 12th.

THE WITNESS: I don't have it.

MR. STRETTON: It was January 12th.

MR. GROSS: We can agree it was January 12th.

THE COURT: Thank you. You may step down.

(Witness excused.)

VINCENT CORDOVA, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. GROSS:

Q Mr. Cordova, what is your present occupation?

A Director of Criminalistics.

Q And by whom are you employed?

A By Toxicon Associates and National Medical Services, Incorporated.

Q And how long have you been so employed?

A Since September of 1976.

Q And what is your educational background?

A I attended the Temple University, University of Pennsylvania, and the Edison College. I have a Bachelor of Arts Degree with major in Chemistry and a minor in Forensic Sciences.

MR. STRETTON: Your Honor, I would stipulate to his background, that he's qualified to testify in this area.

THE COURT: All right. Thank you.

BY MR. GROSS:

Q Now, would you explain to the jury the nature of the work you do?

A Yes. My job in National Medical Services is involved with analyzing any evidence as it pertains to criminal law matters. I am head of a section of six or seven people working under my direction which will process evidence as it relates to a crime scene area, controlled substances, hit-and-run type cases, rape cases, homicide cases, anything in which we can assist the investigator with information, scientific information, evaluation of evidence to either associate or disassociate an individual with a crime scene.

Q Now, do you analyze body fluids?

A Yes, I do.

Q And what type of body fluids do you analyze?

A I'm involved with all types of body fluids: Blood, urine, seminal fluid, liver fluid, saliva.

Q Now, when you do analyze this as to blood, do you do typings on blood?

A Yes.

Q Could you explain that, please?

A Well, yeah, with typings we make an identification first if it is blood and then we go in and see if the type of blood it is, whether it is animal or human and then after that we will try to group it into the various A and B and O groupings.

Q And as to semen, what do you do when you analyze semen?

A In the same way. We make certain tests to determine whether or not seminal residual are present on the clothing or on a swab.

Once that's been ascertained, then we will try to type it similarly like blood typing.

Q Drawing your attention to this case, did you have the occasion to perform certain experiments and examinations?

A Yes, I did.

Q Now, can you describe what examinations that you did perform, please?

A Okay. Over a period of somewhere from 12/21 to

2/1/82, I received evidence on the case in question in which I received body fluids, swabs, and bloods and saliva samples.

Q Okay. Now, did you receive, can you tell the Court looking on Page 3, please, the twelve items that you did receive, that you performed tests on?

A I received the blood from the deceased, Linda Craig, and an oral swab from Linda Craig, a vaginal swab from Linda Craig and a rectal swab from Linda Craig. From Rodney Mitchell I received a sample of his blood. From Rodney Mitchell a sample of his saliva. From Jim Brisbois a sample of his blood. James Brisbois, sample of his saliva. Nicholas Yarris, a sample of his blood. Nicholas Yarris, a sample of his saliva. Arthur Craig, a sample of his blood. And Samuel Craig, a sample of his blood. And I received three pieces of evidence, physical evidence, nail clippers, a pair of white socks and a steak knife.

Q Now, what type of examination did you perform?

A Okay. With the bloods I made an identification as to the type of blood it was, in the A-B-O system.

With the oral swab, the vaginal swab and the rectal swab, I first made an attempt to see if there were any seminal residues present on any of those three items.

After that, I went in to type them similarly like I typed the blood. With the saliva I first determined whether or not the individual the saliva came from an individual who was a secretor. What is meant by secretor is an individual who will secrete whatever factors are present in his blood into his other body fluids. For example, if an individual has Type A blood and he is a positive secretor, he will secrete into his perspiration, into his saliva, into his, if it is a male into his seminal fluid the same type which would be A in that instance.

That was it with respect to the body fluids and the swab.

Q Now, did you get certain results from these tests?

A Yes.

Q Can you tell us what the result was, what blood type Linda Craig had?

A She had Type A.

Q Was she a secretor?

A Yes, she was.

Q What does that mean, secretor?

A Well, in this case, with Linda Craig she had Type A blood and she secreted that factor into her other body fluids. In this case, it was saliva. The oral swab that

was taken by the forensic pathologist from her mouth had the Type A antigen which indicated that she secreted the A antigen in her blood into her saliva or other body fluids, whatever the case may be.

Q And what percent of the populus are secretors?

A About eighty to eighty-five percent.

Q Now, were you also able to, did you also perform a test on her oral, with the oral swab?

A Yes, I did.

Q What did that indicate?

MR. STRETTON: Objection, your Honor.

Asked and answered.

MR. GROSS: No, I asked the blood.

MR. STRETTON: I thought he said the saliva was Type A saliva.

THE COURT: He said that.

BY MR. GROSS:

Q Would that be referred to as A positive?

A Just A. I did not determine the RH factor which would be A positive. When you think of something being positive, it is the rhesus factor I determined antigenicity which would be A or B or either lack of A or B.

Q Did you then determine the RH factor?

A No, I did not.

Q Now, --

MR. STRETTON: Your Honor, could I see you at Side Bar for a second? I just want to make an objection on the record. I'd like to do it now so it won't interrupt his flow.

(Side Bar Conference, with the Court Reporter.)

MR. STRETTON: I apologize for interrupting. I just want to make a general objection since we're only talking about probabilities. See, what they are going to show is that Mr. Yarris had Type B and there was Type B found in her and Mr. Yarris is a secretor and therefore it would show up. The probability of that would be about ten to fifteen percent of that occurring. It is, I'd just like to note for the record an objection that it's too remote. Ten to fifteen percent does not narrow it down enough to make it relevant or substantial.

THE COURT: We'll make it known to the jury it is not like a physical.

MR. STRETTON: I understand, but there are cases of thirty to forty-five percent is not allowed but no case has ever discussed the issue of ten or

fifteen percent. I'd just like to note an objection for the record. I can refer your Honor to the New York Court of Appeals if your Honor wants to pursue it.

THE COURT: No, I don't have any problem with it.

(End of Side Bar Conference.)

BY MR. GROSS:

Q The result of her oral swab?

A There was the A antigen present and there was no seminal residue present.

Q Of her rectal swab?

A There was seminal residue present and the A antigen was present.

Q Now, as to her vaginal swab, what was the result there?

A Seminal residue were present and A and B antigens were present.

Q A and B antigens?

A Yes.

Q Now, how would it be possible for a B antigen to get into her vagina? Does that come from her own body?

A No, the only -- with the analysis, the positive

finding that she was a secretor and the fact that she was Type A she would only have secreted the A antigen on her vaginal swab. That could be the reason why the A was present there because she secretes the A antigen. She did secrete the A antigen into her own body fluids.

Q But she could not from her own body have a B?

A No, no way. This had to come from an external source.

Q Now, as to Rodney Mitchell's blood and saliva, what was the result?

A Neither of the two antigens were present, the A or the B, which indicates that he's a Type O.

Q As to James Brisbois?

A With James Brisbois, he is a Type A.

Q As to Arthur Craig?

A He is a Type B.

Q Is he a secretor?

A I don't know. I never received a saliva sample.

Q As to Samuel Craig?

A Samuel Craig was Type O, neither the A or the B antigen was present.

Q Now, as to Nicholas Yarris, what was his blood type?

A His blood type was Type B.

Q Is he a secretor?

A Yes, he is.

Q Now, can you give your opinion after examining the seminal residue as to where the B could have come from?

MR. STRETTON: Objection to the form of that question, your Honor.

THE COURT: As to where?

MR. GROSS: As to how it could be introduced into the vaginal tract.

MR. STRETTON: Objection again, your Honor, to the form.

THE COURT: Overruled.

THE WITNESS: Number one, the B would have had to come from an individual who secretes the B antigen from his blood or her blood into her body fluid.

Secondly, the fact that the seminal residue was found on the vaginal swab would have had to come from an individual who was a male because only a male has seminal fluid. Henceforth, the B had to come from a male who secretes the B factor into his body fluids and has Type B blood.

BY MR. GROSS:

Q And what percentage would have that?

A Approximately ten percent in the United States.

Q Could it also come from someone who has AB blood?

A Yes, because the A could have come from not only the

victim but also from another individual who secretes, who may have Type AB blood and secretes the A and B antigens.

Q What percentage of the population has that?

A About three percent.

Q And in any of the tests that you performed, in the sample did anybody have AB blood?

A No.

Q Now, did you examine the seminal residue?

A Did I look for seminal residue? Yes, I did.

Q When you did it, did you look for any spermatozoa?

A The test for seminal residue consists of really three tests. One was visibly looking at the swab to see if there was any discoloration on the swab which would indicate the possibility of seminal residue. Second, a chemical test which is used to identify the presence of acid phosphatase which is a major constituent in seminal fluid which is secreted from the prostate gland and the chemical test was performed using a Warner-Lambert Phosphatabs Kit which indicates whether or not acid phosphatase was present or absent on the stain by production of a violet color that is produced.

Now, with respect to the vaginal swab and rectal swab, they were both positive for acid phosphatase that

produced the violet coloration. An extract was made of both of these swabs and a small portion of the extract was placed on a microscope slide and affixed to the slide with heat and then stained with hematoxilin and eosin which are chemical dyes which bring out various morphologic features that may be present on a spermatozoa.

I observed the slide microscopically and in both instances found intact and when I speak about intact I speak about the entire spermatocide which is the head, the neck and the tail are all visible in both cases.

Q Now, what would that indicate to you as to how long that spermatozoa had been there?

MR. STRETTON: Objection, your Honor.

THE COURT: What does it indicate?

MR. STRETTON: Your Honor, first of all, I don't think he's laid the foundation. When did he do the test?

BY MR. GROSS:

Q When did you perform the test?

A The tests were performed on, well, around the 23rd of December, 1981.

Q Now, could you give an opinion as to how long the spermatozoa had been in the vaginal tract?

MR. STRETTON: Objection.

THE COURT: Overruled.

MR. GROSS: First, I'm going to ask him if he could or not.

THE COURT: Yes or no.

THE WITNESS: Yes.

BY MR. GROSS:

Q Why could you give that? On what would it be based?

A Predicated on the quantity of color that I got from the acid phosphatase and the ease and the multiplicity of spermatozoa that I saw on the vaginal swab indicated without a doubt that this was of recent vintage.

Q When you say of recent vintage, how recent would you say?

A Well, within three hours.

MR. GROSS: Cross-examine.

THE COURT: May I just ask you, you mean within three hours of those samples being taken from the body?

THE WITNESS: No, that the seminal fluid was within the cavity a period of about three hours.

MR. STRETTON: May I proceed, your Honor?

THE COURT: Yes.

CROSS-EXAMINATION

BY MR. STRETTON:

Q Now, Mr. Cordova -- am I saying your name right?

Is it Cordova?

A Cordova, yes.

Q Now, you performed these tests and the tests were performed under your supervision; is that correct, sir?

A Yes.

Q And from a review of the blood that you tested, you have indicated that the decedent's blood was Type A; is that correct?

A The deceased's blood was Type A, yes.

Q And you indicated she was a secretor. So in her vaginal fluids there would be Type A also could be determined from her fluid; is that correct?

A Yes.

Q And you've indicated that you also found in her vagina a Type B from the seminal fluid; is that correct?

A Yes.

Q And that could only be from a secretor; is that right?

A From an individual who is a Type B secretor.

Q Now, an individual, can an individual be a secretor with his saliva but not be a secretor in his seminal fluid?

A Entirely improbable. I have yet to find a case where

that is so.

Q But is it possible?

A It is a very, very slight possibility.

Q Now, on this case you determined that Mr. Yarris was a B Type secretor from his saliva; is that correct?

A Yes.

Q Now, you also determined from your examination of Mr. Yarris' blood that he was Type B?

A Yes.

Q Now, Mr. Yarris' blood type is exactly the same as Mr. Craig's blood type, the husband of the decedent; is that correct?

A Yes.

Q And if Mr. Craig was a secretor, that is the husband of the decedent, then there would be of course Type B seminal fluid in the vagina of the victim if they had intercourse within a recent time period; is that right?

A Yes.

Q And you did not test Mr. Craig to see if he was a secretor?

A No, I never received a saliva sample.

Q Now, the percentage of people who are Type B secretors is ten percent of the population?

A Yes.

Q That's ten percent of the worldwide population?

A Those figures are based in the United States.

Q Okay. Ten percent of the 240,000,000 people now making up the country as a result of the census; is that right?

A Yes.

Q Would it be fair to say for black people the percentage who are secretors is seventeen percent; is that correct, sir?

A It is a little bit higher for black people.

Q So that would be ten percent -- seventeen percent for a higher percentage of the black population?

A Somewhat higher than the ten, yes.

THE COURT: Is it seventeen?

THE WITNESS: It is approximately. It is seventeen to fourteen, somewhere in that value.

BY MR. STRETTON:

Q Now, sir, you also tested nail clippers, white socks and a steak knife that had been taken from Mr. Yarris' home during a search by Detective Martin; is that correct?

A Yes.

Q And those items were negative for any type of blood that would have been related to the victim in this case; is that right?

A Yes.

Q In fact, the nail clippings that were given you had the Type B type of blood which would have been the type of Mr. Yarris; is that right?

A Yes.

Q They did come from Mr. Yarris' home during the search, his nail clippers; is that right?

A Yes.

Q Now, you've indicated that you tested the seminal fluid, that is, the fluid that you found in the vagina and typed it Type B; is that correct?

A The fluid that was typed on the vagina swab, the results were Type A and Type B both.

Q Now, sir, did you perform the Berkeley Test to pinpoint the genetic makeup of the individual whose seminal fluid was found in the vagina of Mrs. Craig?

A No, I did not.

Q Now, you're aware of the Berkeley type of test; are you not, sir?

A No, I'm not.

Q Are you aware, sir, that there is genetic typing tests now available that would pinpoint with ninety-five percent accuracy the genetic makeup of the individual whose seminal fluid appears in the rape victim's vagina?

A It is still in the experimental stage, if you're speaking about HOA typing. That may be the one, but even there, with respect to stains and residues, it still is not the ninety-eight percent accuracy that you state.

Q Well, you are aware that there are other tests, sir, that can pinpoint even more specifically than the general test you did in terms of whether or not the seminal fluid had a B Type. You're aware there are more tests?

A Yes, there are.

Q And you did not run those tests; did you?

A No, they were not run.

Q And would that have not been the better practice to have run those tests?

A In our facility we are not set up to handle that testing procedure.

Q But there could have been test procedures that could have been done that would have pinpointed with more specificity the genetic makeup of the individual who was involved?

A It is a possibility, yes.

Q Now, you've indicated, sir, that you discovered the presence of the seminal fluid through the use of a

Warner-Lambert acid phosphatase? I can't remember. Was that it?

A Warner-Lambert Phosphatabs Kit.

Q Type of test.

Now, the phosphatase type of test is, has come at times under criticism; has it not, sir?

A I'm unaware if it has.

Q Sir, is there not in a small percentage of all women the same phosphatase present that is normally present in a male seminal fluid?

A Not by use of a, one additional reagent that I incorporate in this which is a tartrate buffer which inhibits just the acid phosphatase which is present in the prostate gland and I did get inhibition in this case.

Q I understand. So what you're telling me is that there can be acid phosphatase but you had --

A A more selective narrowing down by the time of testing I performed.

Q Now, you made these examinations on December 23rd, approximately two, not two weeks but eight days after the demise of this young lady; is that correct?

A If you say so. I don't know when she died.

Q She died on December 15th, sir.

A The 15th, okay.

Q And do you know, sir, whether at the time the body was found whether the sperm were mobile, that is still moving or immovable?

A At the time that she died?

Q At the time her body was taken to the lab?

A I have no idea.

Q Now, would it be fair to say, sir, that the normal way of testing the time of intercourse, the period of intercourse, the accepted way is looking at the spermatozoa that are present in the vagina and to see if they are still moving; that is, mobile as opposed to immobile? Isn't that the normal way, sir?

A No, it is not. This is very unlikely to get a mobile sperm because its survival rate in the vaginal cavity is less than an hour, after deposition.

Q Sir, isn't the survival rate thirty minutes to twenty-eight hours depending on the circumstances?

A No. Twenty-eight hours of viability of the spermatozoa, I've never heard of that length of survival. It is difficult to find spermatozoa after six hours, let alone a mobile spermatozoa.

MR. STRETTON: Indulge me one second, your

Honor.

(Pause)

MR. STRETTON: May I approach the witness,
your Honor?

THE COURT: All right.

MR. GROSS: Your Honor, I would ask that
he not approach until he asks whether he's aware
of this.

BY MR. STRETTON:

Q Sir, are you generally aware of the literature in
the area?

A Yes.

Q And sir, are you aware of an individual named
Gonzalez who has done work in the area?

A I know of a person by Gonzalez, a work by him.

Q And are you aware of the work by Cyril Wick, the
Coroner of Allegheny County and a J.D. and an M.D. and
also a Democratic candidate for State Senate?

A I know of him, yes.

Q And you're aware of, are you familiar with his work
in the area?

A Well, he's a forensic pathologist.

Q He's a recognized expert in the area?

A Yes, he is.

Q And he's a recognized expert in that area?

A In forensic pathology.

Q Yes. And you are familiar with his work in the area of forensic pathology?

A Yes.

Q Yes?

A Yes.

Q Now, sir, I'm going to approach you and show you pages from Cyril Wick's recent published Forensic Science, Law Science, Civil-Criminal volume which is edited by him which has articles by him and other individuals in there.

MR. STRETTON: Might I approach the witness, your Honor?

THE COURT: Yes, you may.

MR. GROSS: Your Honor, I'm going to object unless he's aware of this and is aware of the expertise of this publication.

THE COURT: Who wrote this article?

MR. STRETTON: This particular article, your Honor, was written by Cyril Wick himself, but it refers to the information by Mr. Gonzalez. He's also familiar with it.

MR. GROSS: I don't think he said he was familiar with that information.

MR. STRETTON: He's familiar with Gonzalez as an expert in this area.

THE WITNESS: In toxicology, not in this area.

BY MR. STRETTON:

Q This is toxicology.

A No, sir. It is not. It is criminalistics.

Q What did you call it?

A Criminalistics.

Q What?

A Criminalistics or serology, immunology.

MR. STRETTON: Your Honor, may I show him this and see if this perhaps refreshes his recollection of some things he's read since he's read this individual?

MR. GROSS: Your Honor, he's said he's not familiar with this individual but an individual named Gonzalez in a completely different area.

THE COURT: All right. I'm going to rule that you cannot use that in this examination.

MR. STRETTON: Please note my objection, your Honor.

THE COURT: It is automatically noted. We will take a brief recess.

COURT CRIER: Court will recess to the call of the crier.

(A short recess followed.)

COURT CLERK: Let the record show it is 3:57 p.m. and the Defendant is in Court with counsel and the jury is seated.

THE COURT: All right. You may continue.

MR. STRETTON: Thank you, your Honor.

BY MR. STRETTON:

Q Now, Mr. Cordova, you have indicated that one of your basis for your opinion in terms of the previous intercourse was the high concentration of the spermatozoa; is that correct?

A Yes.

Q Now, sir, do you have in your report anything that indicates that the concentration of spermatozoa was high or frequent or dense?

A No, I do not.

Q And do you have any objective test that you performed, the results of which we have in your report that would so indicate?

A Not in my report, no.

Q So would it be fair to say that the basis for your statement is just based on a visual examination under a microscope; is that right?

A And the ease with which a coloring test intensity is

vivid as I recall and the numerous spermatozoa intact that I saw which is unusual.

Q I understand. But you did not say anything along those lines in this report?

A No, I did not.

Q And in fact, in this report did you not even give an opinion as to the time of intercourse based on your observations; is that correct?

A No, I did not.

MR. STRETTON: I have no further questions.

MR. GROSS: I call Correctional Officer Cordingley.

ROBIN CORDINGLEY, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. GROSS:

Q Officer Cordingley, by whom are you employed?

A Delaware County Prison.

Q In what capacity?

A Correction Officer.

Q And how long have you been a correction officer?