

Illinois v. Gary Dotson

Post Conviction Evaluation of the
Conventional Serology Evidence of
Timothy Dixon

FSA File No. 85-035

Re: People of the State of Illinois

Plaintiff,

vs

Gary E. Dotson,

Defendant.

NQ. P.C. 4333

Our File No. 85-035

Affidavit of Edward T. Blake, D. Crim.

I, Edward T. Blake, after having been first duly sworn upon oath, depose and state that the statements contained herein are true and correct and are personally known to me and that I have personal knowledge of each, except for those matters which are stated on information and belief. If I were called upon to testify in the above entitled cause, I would be competent to testify as follows:

Background

I am a forensic serologist appointed to act as a consultant for the defendant Gary Dotson in the above titled matter. Defendant was charged under the Illinois penal code with the rape of Cathleen Crowell Webb. Dotson was convicted of the Webb rape in May of 1979 and sentenced to prison in July of 1979. Dotson's conviction was based, in part, on the testimony of Webb and the corroborating testimony of Timothy Dixon, a forensic scientist employed by the Illinois Department of Law Enforcement. In March

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of 1985 Ms. Webb came forward to recant her trial testimony. The essence of her recantation was that the alleged rape never occurred and that she had never seen Dotson prior to trial. Webb cited as reason for her original allegation fear of pregnancy due to intercourse with her boyfriend, David Beirne. Webb cited as reason for her recantation irresistible guilt prodded by her newfound faith in Christ.

In a hearing before the original trial court judge, Richard L. Samuels, Dotson sought relief from his rape conviction based upon the recanted testimony of Webb. Prior to that hearing the physical evidence and fresh reference samples from Dotson, Webb, and Beirne were submitted to Mark Stolorow of the Illinois Bureau of Law Enforcement. Stolorow reexamined the semen stain from Webb's panties and hair evidence. The blood stains on Webb's panties, blouse, and slacks which played such a prominent role in Dotson's trial were apparently not reexamined. The essence of Stolorow's findings were that neither Dotson nor Beirne could be eliminated as the source of the semen in the panties and that one of the hairs was similar to Dotson's but not to either Webb's or Beirne's hair. Stolorow's testimony revealed significant discrepancies between his interpretation of the evidence and that of Dixon. Judge Samuels denied Dotson's motion for a new trial citing a tradition of judicial skepticism in the reliability of recanted testimony. While the traditional reasons for this skepticism such as avarice or fear do not seem to be applicable in this case, a misguided application of the Christian principles of charity and forgiveness could be cited as

equally powerful motivating factors.

Following Judge Samuels' decision, clemency hearings were conducted by Governor Thompson. Prior to those hearings the physical evidence was resubmitted by the Illinois Bureau of Law Enforcement to Dr. Henry Lee of the Connecticut State Police Forensic Laboratory. Stolorow testified before the Thompson hearing but Lee did not. Lee's findings were represented to be in accord with Stolorow's findings by an Illinois Bureau of Law Enforcement administrator. Governor Thompson ultimately commuted Dotson's sentence to time served.

Dotson now seeks reversal of his rape conviction based upon alleged misrepresentation of evidence by Dixon at trial. I have been requested to review documents available to me on that issue and to consider lines of scientific inquiry that may yet shed light on this case. Possible new lines of scientific inquiry may be related to the motion for a new trial under the mantle of newly discovered evidence. Stolorow and Dixon have filed affidavits with the court in opposition to the allegations of misrepresentation. Stolorow states, in part, in his affidavit that

With respect to Tim Dixon's method and conclusion in the ABO typing of the secretion stain in the panties of Cathleen Webb, it is my opinion, based on a review of Tim Dixon's worknotes, laboratory reports, and testimony, that Tim Dixon erred; however, there is no evidence of falsification or intentional misrepresentation of either his findings or his interpretation given the procedures used by Tim Dixon in 1977.

I am in possession of the following documents for review:

1. Emergency room records, South Suburban Hospital, dated 7/9/77, concerning Cathy Crowell.

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2. Laboratory report dated 7/14/77, signed by Timothy Dixon.
3. Laboratory report dated 7/20/77, signed by Timothy Dixon.
4. Laboratory report dated 8/8/77, signed by Jacqueline Fracaro.
5. Laboratory report dated 3/6/78, signed by Timothy Dixon.
6. Laboratory report dated 3/24/78, signed by Timothy Dixon.
7. Laboratory report dated 5/15/78, signed by Timothy Dixon.
8. Laboratory report dated 8/15/78, signed by Timothy Dixon.
9. Trial transcript of Timothy Dixon, jl 151-199.
10. Closing arguments at trial by Mr. Garza.
11. Affidavit dated May 17, 1985, by Timothy Dixon.
12. Hearing transcript of Mark Stolorow, 141-195.
13. Affidavit dated May 29, 1985, by Mark Stolorow.

Statement of Relevant General Scientific Facts

In order to understand the considerations involved in the interpretation of sexual assault evidence, it is necessary to have an understanding of the general scientific facts involved and the logic used in their interpretation. The analysis of sexual assault evidence usually involves two stages: the identification of semen and the analysis of genetic markers.

Genetic markers are inherited biochemical traits that are found in various body fluids and tissues. Each genetic marker system has a certain number of types associated with it. Every individual has a type that is associated with each genetic marker system. Genetic marker types can be viewed as serial numbers that are stamped on our genes that are constant throughout one's life. Therefore, genetic markers can be used to distinguish the

body fluids of one person from those of another. In 1977 there were two genetic marker systems that were known to be useful for the genetic analysis of semen evidence. They are the ABO genetic marker system and the phosphoglucomutase (PGM) genetic marker system. Semen evidence is normally contaminated with vaginal material from the victim. Therefore, the interpretation of that evidence must take into consideration the possible contribution of the victim to the genetic marker pool.

1. The Identification of Semen

There are three procedures that are employed for the identification of semen in modern forensic serology practice. They are (1) microscopic identification of spermatozoa, (2) quantitative acid phosphatase assay, and (3) immunological identification of the semen specific protein, p30. The most sensitive and simplest test is the microscopic identification of spermatozoa. All three of these tests can be made to be quantitative so that they provide information about the amount of semen present in a specimen. However, in 1977 quantitative strategies were not generally employed for estimating semen levels. This does not mean that the testing procedures generally employed in 1977 were defective, but rather that the logical inferences that could be drawn from analytical testing were limited.

2. The ABO Genetic Marker System

The ABO genetic marker system is complicated by the fact that the ABO blood group substances are found in two forms in man. They are found in a form that is associated with cell

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membranes; and, in most individuals, they are found dissolved in the fluid portion of body fluids and secretions such as semen, saliva, and vaginal fluid. Within this genetic marker system there are four possible ABO types; they are A, B, AB, and O. Every member of the population falls into one of these four types; and every member of the population has the appropriate A, B, A and B, or O(H) blood group substance on the surface of his body cells. Those members of the population who are secretors will also have the corresponding blood group substance dissolved in the watery portion of several body fluids. Individuals who are nonsecretors will not have the corresponding blood group substance in the watery portion of their body fluids even though they have blood group substance on their cells. Individuals who are A, B, or AB secretors, in addition to possessing the appropriate A, B, or A and B blood group substance, also possess the H(O) blood group substance. This is so because the H(O) blood group substance is a precursor substance upon which the A and B blood group substances are built.

The level of the H(O) blood group substance is only slightly less than the level of the A and/or B blood group substance in the semen of individuals who are A, B, or AB secretors. In general the level of the H blood group substance in the semen of A, B, and AB secretors is about the same as the level of H blood group substance in the semen of O secretors. This information is summarized in the chart below:

ABO Genetic Marker SystemAntigens Found in the Cells and Body Fluid
Secretions of Secretors and Nonsecretors

<u>Cells</u>	<u>Secretions</u>	
<u>Secretors and Nonsecretors</u>	<u>Secretors</u>	<u>Nonsecretors</u>
A	A, H	negative
B	B, H	negative
A, B	A, B, H	negative
O(H)	H	negative

3. The Detection of ABO Blood Group Substances in Sexual Assault Evidence.

The ABO blood group substances in semen are primarily of the water soluble form; there are no ABO blood group substances associated with spermatozoa although there are ABO blood group substances associated with the nonsperm cellular debris in semen. The detection of the water soluble blood group substances requires the use of a procedure called absorption-inhibition. This procedure must be properly manipulated so that only water soluble blood group substances are detected. This manipulation requires that the sample to be tested be cell-free. If the analyst does not use cell-free sample extracts in his test, then detection of an antigen must be interpreted from the perspective that the result could be due to blood group substances associated with cells. That is, the antigen detected could come from either a secretor or a nonsecretor.

The interpretation of the absence of antigen activity is

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possible if and only if one can satisfactorily demonstrate that there is sufficient semen present that the antigen should have been detected by the procedure employed. Such a judgement requires knowledge of the sensitivity of the test procedure and the level of antigen activity in semen.

The ABO blood group substances in the semen of secretors are easier to detect than the other genetic markers found in semen. The other genetic markers found in semen are present irrespective of the individual's secretor status.

3-1. The Absorption-Inhibition Test

In general antigens such as the ABO blood group substances are detected with the use of antibodies. Antibodies have the property that they can cause test cells to agglutinate or stick together. The reagent used to detect the O(H) blood substance is an antibody-like protein extracted from the seeds of the gorse plant (*Ulex europaeus*) and is called H lectin.

The absorption-inhibition test is in essence an antibody neutralization test. The test involves the following steps:

1. Dilution of antibody to the point where the addition of a blank sample together with the addition of test cells just causes clear-cut agglutination of the test cells.

2. Addition of the sample to the adjusted antibody solutions followed by incubation.

3. Addition of test cells to the antibody/sample mixture.

If detectable antigen is present in the test sample, it will neutralize or inhibit the appropriate antibody. The neutralized antibody will then not agglutinate the test cells. Thus, antigen

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is demonstrated to be present in the sample when the test cells fail to agglutinate. This test has always been used in forensic practice as the primary tool for detecting secreted blood group substances; and it is the only way that one can reliably distinguish between secretors and nonsecretors from body fluid secretions.

3-2. The Absorption-Elution Test

The absorption-elution test is in essence an antibody binding test. It is used primarily for the detection of cellular antigens. It involves the following steps:

1. The sample to be tested is dried on cloth. Frequently evidence specimens are already in this state.
2. Antibody is added to the dried sample and incubated.
3. The sample is thoroughly washed so that the only antibody remaining is that which is specifically bound to antigen.
4. Any bound antibody is eluted from the dried material into a solution by incubation of the specimen at 56-62° C.
5. Test cells are added to the eluted solution.

Agglutination of the test cells is evidence of the presence of antigen in the original dried specimen. Because this test will detect the antigens associated with the cells of nonsecretors, it is not an appropriate test for secreted antigen. Furthermore, this test can fail by the neutralization of antibody due to the presence of high levels of water soluble antigen in secretors.

Both of the tests described above have been in use in

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forensic science for many years. Both tests require the use of appropriate controls.

4. The Phosphoglucumutase (PGM) Genetic Marker System

The PGM genetic marker system is also found in semen. PGM is an enzyme that is widely distributed within the body. It is also present in vaginal fluid and under certain conditions is present in vaginal material at high levels. There are three nominal types within the PGM genetic marker system. These types can be subdivided into 10 subtypes by employing the appropriate analytical procedure. Only the nominal PGM typing procedure was available in 1977. These types are indicated in the chart below. Since PGM can be found in vaginal material, only that PGM which could not be contributed by the female is relevant to the interpretation of the PGM type of the semen donor.

Phosphoglucumutase (PGM) Genetic Marker System

Nominal PGM Types

1-1	2-1	2-2
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PGM Subtypes

1+ 1+	2+ 1+	2+ 2+
1+ 1-	2+ 1-	2+ 2-
1- 1-	2- 1+	2- 2-
	2- 1-	

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Statement of Facts in the Instant Case as Revealed by Dixon's Laboratory Reports

1. Report of 7/14/77

a) Blood is detected on the inside of the left sleeve of the Webb blouse. ABO typing reveals "Groups A and B or AB blood present."

b) Blood detected in the crotch of the Webb slacks. ABO typing reveals "Groups A and B or AB blood is present."

c) Blood is detected in the crotch of the Webb Panties. ABO typing reveals "Groups A and B or AB and O (emphasis added) blood mixture is present."

d) "Seminal material is present in the crotch area" of the Webb panties. No information is provided as to how the "seminal material" was identified. The absence of any specific mention of spermatozoa is conspicuous. Stolorow is silent on the question of Dixon's identification of semen in the panties. No ABO typing is conducted on the seminal material even though the procedure (absorption-elution) used by Dixon later on the seminal material would have been used initially by Dixon to ABO type the blood.

It is noteworthy that the possible presence of O type blood was indicated. This statement reveals that H antigen was detected in his typing procedure. These findings are reiterated in Dixon's testimony (j1 173):

Q: Is there any doubt in your mind that antigens of A, B, and O type were present?

A: No, not at all.

Q: Absolutely unquestioned?

A: That's correct.

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Stolorow is silent on these findings and testimony in the context of his "weak H lectin" statement.

e) "No male reproductive cells were found on the vaginal slides."

f) A request is made for reference blood samples from the suspect and victim; only a reference saliva sample is requested from the suspect. Thus, at this point the ABO typing on the blood has been conducted blind; but no similar attempt was made to type the seminal material before knowledge of the suspect's type was available.

2. Report dated 3/6/78

a) Dotson's ABO blood type is determined to be type B.

b) A request is made for liquid saliva samples from suspect and victim together with a blood sample from the victim.

3. Report dated 3/24/78.

Dotson is determined to be an ABO type B secretor from his saliva. Stolorow is silent on whether Dixon determined Dotson's secretor status by absorption-elution or absorption-inhibition. If Dixon used the absorption-elution procedure, this procedure was not capable of determining secretor status. If Dixon properly used the absorption-inhibition procedure, it is not explained why this procedure was not employed later in the examination of the seminal material. It is not explained whether H antigen was detected by whatever procedure was employed. These latter two points are obviously relevant to evaluating Dixon's state of belief at the time that he analyzed the panties.

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4. Report dated 5/15/78.

a) Webb was determined to be a B secretor from blood and saliva specimens. The discussion of the analysis of the Dotson saliva specimen is equally relevant to the Webb saliva specimen.

b) A request is made to resubmit the Webb panties for ABO typing of the seminal material.

5. Report dated 8/15/78.

a) "Group B blood group substance was present in the seminal material" from the Webb panties.

b) The report does not state that "the seminal material was from a Group B secretor" as Dixon testified at trial. The difference between these statements is obvious and significant. The finding of B blood group substance in the crotch of the panties from a female who is thought to be a B secretor is exactly what one expects with or without the presence of semen. Thus, an informed reading of this statement would indicate that no genetic information was obtained about the ABO type or secretor status of the semen donor. This is so because all of the B antigen activity detected could have originated from Webb herself; and without knowing the amount of semen present, it is not possible to tell whether there was enough semen present to detect the blood group substances from the semen. Defendant had no way of knowing prior to Dixon's testimony that his finding would be interpreted to mean that the semen came from a B secretor.

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Dixon's Testimony at Trial

There are three areas of concern in Dixon's trial testimony. They are 1) Dixon's statement of his qualifications, 2) Dixon's interpretation of the ABO analysis of the "seminal material", 3) Dixon's analysis and interpretation of the ABO typing of the blood evidence.

1. Dixon's Statement of his Qualifications.

In his trial testimony Dixon stated, "In 1972 I did graduate work at the University of California at Berkeley, where I studied the separation of red blood cell proteins and enzymes." Dixon now concedes that this statement was in reference to a course taught on the weekend of November 17-19, 1972, on the Berkeley campus. The course was sponsored by the University Extension program and had the course number, X421. The course was organized by Gerald T. Mitosinka, a Contra Costa County Crime Laboratory employee and was taught by Bryan J. Culliford, an employee of the Metropolitan Police Laboratory, London, England.

I was a graduate student in the School of Criminology on the Berkeley campus when this course was offered; and I assisted Mr. Culliford in the preparation of some of his demonstrations. The course was not part of any graduate program on the Berkeley campus. Indeed the course was offered at a time (weekend) when the normal administrative and teaching functions of the University were closed. The attendees were mostly crime laboratory employees from the western states. None of them were admitted to graduate school as a prerequisite for course enrollment; and to the best of my knowledge the graduate division

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of the University has not accepted this course as fulfilling requirements for any graduate degree.

It is common knowledge for anyone who has attended college that admission to a graduate program at least requires an application for admission. It is difficult to believe that a lecture seminar conducted on the weekend, organized and taught by nonuniversity employees, and which required no work on the part of the students could be considered "graduate work".

With regard to the analyses conducted on the evidence in this case, it should be noted that the phosphoglucomutase (PGM) typing procedure discussed in the U.C. extension course was not employed by Mr. Dixon five years later in the analysis of the seminal material. Mr. Dixon received the evidence within two days of the alleged incident indicating that the test probably would have been successful. Had Mr. Dixon conducted a PGM typing on the seminal material, there is at least a chance that Mr. Dotson could have been excluded as the semen donor.

2. Analysis and Interpretation of the Seminal Material from the Webb Panties.

Dixon determined that "seminal material" was present in the crotch of the Webb panties shortly after receiving the panties on July 11, 1977. It is not clear from either his testimony or his reports how semen was identified. His testimony indicates that a microscopic examination was conducted (j1 156).

Q: What did you do, exactly?

A: I examined an extract of a suspected stain in the

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panties for the presence of seminal material. I ran chemical tests and microscopic examination for the determination of seminal material.

Q: What was the results of your analysis of that seminal material found in those panties?

A: Human seminal material was present in the panties.

The microscopic examination should have revealed the presence of spermatozoa and epithelial cells from vaginal drainage. The specific absence of any mention of spermatozoa suggests that they may not have been observed. Most chemical tests employed for semen identification in 1977 were adequate to suggest the presence of semen but were not adequate to prove the presence of semen in the absence of a demonstration of spermatozoa.

The ABO typing conducted by Dixon on the seminal substance detected B antigen activity. Since some or all of this antigen activity could have originated from vaginal drainage, this data could not logically be used to exclude any male in the population from being the semen donor. The significance of the absence of other antigen activity (A or H) can only be assessed by specific knowledge of the amount of semen present, the range of antigen activity normally found in semen, and the sensitivity of the antigen testing procedure. It is clear on its face that Dixon did not possess such knowledge since he did not detect the H antigen activity detected 8 years later by Stolorow. Therefore Dixon's testimony that "the seminal material originated from a Group B secretor" was not demonstrated by his analysis.

The inappropriate inferences drawn by Mr. Dixon when he

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failed to detect a particular antigen is highlighted by Mr. Stolorow's testimony regarding the Gm typing conducted in 1985. (165)

Q: Did the test results of Mohammad Tahir exclude David Burns as the source of that seminal material?

A: The results of the typing demonstrated no GM activity in the stains at all and therefore, no one can be excluded on the basis of the GM typing alone.

Implicit in this testimony is the possibility that the amount of semen is inadequate to detect the Gm antigens. That is, Mr. Stolorow did not draw the conclusion that the semen originated from a male lacking the Gm antigens for which there was a test. Presumably he would have drawn the same conclusion if Gm antigens were detected but where all of the antigen activity could have been contributed by Webb.

Dixon states that he used the absorption-elution procedure for his typing work. Such a procedure is not capable of distinguishing between secretors and nonsecretors since this procedure will detect the antigens associated with cells that are present in all body fluids of both secretors and nonsecretors. Dixon further states that he was aware at the time of his analysis that the absorption-elution procedure was capable of detecting antigens from both secretors and nonsecretors.

Absorption-elution, I believed in 1977, could detect blood group substance from non-secretors as well as secretors.

Thus, his testimony by his own admission misstates the evidence.

While Mr. Dixon is correct in stating that the absorption-elution procedure could detect blood group substances from nonsecretors, it is not correct to assert that it would detect those blood group substances in all samples and over all ranges

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of semen dilution.

Further Mr. Dixon states that in the testing for H antigen, he used a commercially purchased H-lectin. "Using this reagent I detected no H substance, therefore I excluded as potential contributors to this stain all O blood group persons (who have this H substance). This assertion is logically flawed, in part, for reasons cited above.

In the light of the above statement Mr. Dixon's trial testimony is even more perplexing. All individuals who are secretors possess the H antigen in their body fluids. In semen the levels of H antigen are particularly high. If Mr. Dixon believed that his test for H antigen would detect any H antigen from the semen irrespective of how much semen was present in the stain and he failed to detect such antigen, then logic would dictate that he should have eliminated all secretors as possible semen donors. It is clear that Mr. Dixon did not follow the logical dictates of his stated beliefs.

The statements by Mr. Dixon and Mr. Stolorow regarding the H-lectin reagent used by the Illinois Bureau of Law Enforcement in 1977 are perplexing in a more general context. Mr. Stolorow states that coincident with his employment by the Illinois Bureau of Law Enforcement in June of 1979, it was discovered that the H-lectin in current use was weak and that such a reagent could cause false negative results. This position is significant in that it implies the potential for the same error, discovered by Mr. Stolorow in the instant case, to be applicable to all other relevant cases analyzed before June, 1979. It further implies

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that adequate routine control testing was not conducted by Illinois laboratory personnel since such testing would have revealed the alleged defect in the reagent. It is unclear what analytical basis Mr. Dixon had for his belief in his reagents or testing procedure.

It is noteworthy that Mr. Dixon cites in his published articles the following: "Absorption-Elution by Ammonia Extraction-Forensic Serology News (1976). A copy of that article is enclosed. Approximately one-half of that article is devoted to a procedure for preparing H-lectin in the laboratory. Thus, if Mr. Dixon used an inadequate commercially prepared reagent in this case, it was not without knowledge of an alternative procedure for preparing a good quality reagent himself. Further, the H-lectin procedure described by Mr. Dixon is similar to a procedure submitted to Forensic Serology News the previous year (1975) by Sally I. Dillon (enclosed) of the Joliet Laboratory which states, in part:

The above procedure is from "the ABO grouping of Bloodstains" by Stuart S. Kind and is the procedure used by the Illinois Bureau of Identification Laboratories.

3. Analysis and Testimony Regarding the Blood Evidence.

Mr. Dixon detected blood on several items of Webb's clothing including the blouse on the inside of the left sleeve, the crotch of the slacks, and the crotch of the panties. The testimony suggested that the blood on the sleeve of the blouse was a small spot (j1 180) and that the blood stain on the panties was

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somewhat larger (j1 181). There was no testimony regarding the blood stain on the slacks. Mr. Garza's closing arguments suggested that some of the blood stain remained on the panties after Mr. Dixon's examination (537). A substantial portion of Mr. Dixon's cross-examination and the closing arguments of the District Attorney dealt with the ABO typing of the blood. The ABO typing of the blood was significant in that Dixon found ABO A antigen activity in all three blood stains; he also found B antigen activity in all three stains and O(H) antigen activity associated with the blood stain in the panties crotch. The A antigen activity was significant in that it had to originate from someone other than Dotson or Webb. As such it was potentially exculpatory evidence.

Dixon's testimony concerning the ABO typing of the blood is relevant to his state of belief about the significance of finding antigen activity in body fluids in general. Through a long series of cross-examination and redirect examination questions, Dixon attempted to disassociate the A antigen activity found in the blood with the blood itself. The following testimony is relevant to this issue.

Q: To put it in laymans' terms, you'll have to excuse us. Okay, you also found the presence of A blood, isn't that correct?

A: Something representing A antigen, that's correct.
(j1 172)

Q: So, that if the suspect, Mr. Dotson, is a B secretor only, and the victim is a B secretor, B type only blood, then the blood found on those panties which the State's Attorney didn't refer to, is the blood of

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someone else?

A: No, that's not correct.

Q: You can't say that?

A: I can't determine the type of the blood. In other words, I can determine there is antigenic activity representative of A, B, and O individuals in that blood. I can't say which of these is responsible for that blood stain.

There are other body fluids and other factors that enter into antigenic activity or ABO activity.
(j1 175-176)

Q: And if neither one, if either of them or both of them are both B's, than the A stain came from someone else?

A: The A stain - - I can't say the A stain, I can't say that blood is A, I can't say that blood is B, all I can say is that material was blood, and a mixture of - - it could be perspiration(sic), could be other body fluids in combination of B and H activity.
(j1 176)

Q: It could be a combination of two peoples' blood, is that possible?

A: It could be a combination of two peoples' blood and other physiological body fluids like perspiration --
(j1 183)

Q: So that again if Ms. Crowell is B only, if Mr. Dotson is B only, that someone else contributed to the stain, someone else contributed the A antigen to that stain other than them two?

A: This could be be blood from either the Defendant or the victim, deposited upon saliva or perspiration from an A secretor.
(j1 185)

Q: So, if you found an A antigen in an A B sample, it is possible that fifty percent of the male population could have been responsible for that stain?

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A: No, because I have no idea of the combination of antigens in that stain. I don't know if it's antigen from the blood or other physiological body fluids. I don't know if, in fact, it's A and B together, or a combination of A and B.

Q: It's a little confusing, you can't tell who, in fact, that A antigen is in there?

A: That's correct.
(j1 188-9)

Q: Well, where does this A antigen come from?

A: Antigen activity, including A antigen and B antigen, could be found in non-human - -

Q: You're of the opinion it's human blood?

A: The blood is human.
(j1 189)

Q: Going back to the antigens, are antigens present in any substance other than blood?

A: Antigen-like material, yes.

Q: What other kind of substances gives off antigen-like activity?

A: Unfortunately for us there are lots of materials; dust, wood, leather, certain kinds of clothes, different cloth materials, detergents in materials - -

Q: Are there any body substances that give off these antigens other than blood?

A: I'm not sure I understand the question.

Q: I think you mentioned, in Cross Examination, they can be deposited by perspiration in terms - -

A: There are other body fluids that contain blood group substance, as I referred earlier, coming from secretors, secretors can secrete ABO blood group substance through other body fluids like ear wax, urine, and so on.

Q: So when you say there was this activity, this A on the

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samples that you took, that could be coming from someone having handled them other than Ms. Crowell, it could be coming from any number of sources that you cannot distinguish, is that correct?

A: That's correct.
(jl 194-5)

This testimony reveals that Mr. Dixon apparently did not understand the purpose of control testing which he states he conducted. Control testing is testing that is conducted just outside the area of a biological stain. One of the purposes of control testing is to demonstrate that the antigen activity found in the sample is not due to generalized contamination in the background. To propose that antigen activity is due to the various sources outlined by Mr. Dixon requires that that contamination be present only in the area of the blood but not in the unstained cloth outside it. Such a proposition would make the ABO typing of biological samples inherently unreliable. Given such a state of belief, it would not be fair or appropriate to conclude that any antigen activity is associated with any particular biological fluid stain just because it fit a particular case theory. How, then, could Mr. Dixon conclude that the seminal material originated from an ABO type B secretor? To give the testimony cited above concerning the potentially exculpatory blood and not express similar reservations about the seminal material is, at best, uneven.

Stolorow is silent on the ABO typing of the blood evidence. He does not comment on Dixon's laboratory findings and testimony nor did he conduct a reexamination of this evidence. In

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particular Mr. Stolorow does not comment on how Dixon detected H antigen in the blood stain but not in the seminal material.

It is noteworthy that any reexamination of the blood evidence by Mr. Stolorow would have benefited Mr. Dotson by the following logic: There are two general possible results of an examination of the blood by Mr. Stolorow. They are 1) confirmation of the original findings of Dixon and 2) some other finding such as type B only. Either outcome would have benefited Mr. Dotson. A confirmation of the presence of A antigen with the use of appropriate controls would have demonstrated the presence of blood that could not have come from Dotson in the Webb panties strengthening the exculpatory nature of this evidence. A finding of a different type, such as type B only, would have raised questions about Dixon's ability to accurately employ the typing procedure. If Dixon could not accurately employ the typing procedure on the blood, then he could not reliably employ the same typing procedure on the seminal material.

Evaluation of Dixon's Work and Testimony with Regard to the Issue of Misrepresentation

Whether Dixon intentionally misrepresented his findings is a question requiring judicial judgement. It is perhaps relevant, however, to consider the standards against which forensic scientists judge themselves. Such standards are contained within the various codes of ethics of professional organizations. To the best of my knowledge the code of ethics of the California Association of Criminalists is the only code of ethics which provides concrete guidelines. A copy of that code of ethics is

enclosed.

New Testing of the Seminal Material in the Webb Panties

Based upon Stolorow's retesting of the Webb panties, there appears to be no question that semen is present and distributed over a large area. There remains two reasonable explanations for this semen. They are 1) that the semen originated from an assailant or 2) that the semen originated from consensual intercourse with Beirne.

Stolorow determined that Beirne is an ABO type O secretor. It is potentially possible to demonstrate that the semen stain in the Webb panties is a mixture of semen from an O secretor with Webb's B secretor vaginal fluid through the use of a quantitative antigen assay. The levels of ABO blood group substance in semen are generally greater than what is found in other body fluid secretions. Further, in the semen and vaginal fluid of B secretors the level of H antigen is less than the level of B antigen. Therefore, an analytical finding which demonstrated that the level of H antigen was very much greater than the level of B antigen would provide evidence of the presence of semen from an O secretor.

I suggest that such testing be conducted in collaboration with Mark Stolorow in my laboratory in California. Mr. Stolorow could work on the evidence with Brian Wraxall whose laboratory is next door to my own and who is familiar with quantitative antigen assay procedures. This mechanism would allow for the resolution of any ambiguities so that a clear understanding of the evidence

AFFIDAVIT OF EDWARD T. BLAKE

as it exists in 1985 is obtained.

THE ABOVE AFFIDAVIT IS A TRUE AND ACCURATE REPRESENTATION OF THE
FACTS IN THIS CASE TO THE BEST OF MY KNOWLEDGE AND IS EXECUTED
UNDER PENALTY OF PERJURY.

SUBMITTED THIS 29TH DAY OF JULY, 1985,

Edward T. Blake

Edward T. Blake, D. Crim.

STATE OF CALIFORNIA

COUNTY OF *Alameda*

On this *29th* day of *July*, in the year *1985*,
ss. *David H. Bachrach*, before me,
a Notary Public, State of California,
duly commissioned and sworn, personally appeared

EDWARD T. BLAKE

personally known to me (or proved to me on the basis of satisfactory evidence) to be
the person whose name *HE*

subscribed to this instrument, and acknowledged that he executed it.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal
in the *Alameda* County of
on the date set forth above
in this certificate.

David H. Bachrach
Notary Public/State of California

My commission expires *4/2/86*

This document is only a general form which may be proper for use in simple transactions and in no
way acts, or is intended to act, as a substitute for the advice of an attorney. The printer does not
make any warranty, either express or implied as to the legal validity of any provision or the
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UNDER PENALTY OF PERJURY.

SUBMITTED THIS 29TH DAY OF JULY, 1985,

Edward T. Blake

Edward T. Blake, D. Crim.

No. 202-182 5M 12/74

COUNTY CLERK'S CERTIFICATE AS TO NOTARY PUBLIC

No. 33263

State of California } ss
County of Alameda }

I, Rene' C. Davidson, County Clerk of Alameda, State of California, and ex-officio Clerk of the Superior Court of the State of California in and for the County of Alameda, which is a court of record of the State of California, having by law a seal, do hereby certify that

DAVID H. BACHRACH

whose name is subscribed to the attached certificate of proof, acknowledgement or affidavit, was at the time of taking such proof, acknowledgement or affidavit a Notary Public in and for said Alameda County, duly commissioned and qualified and residing in said county, and was as such an officer of the State of California, duly authorized by the laws hereof to administer oaths or affirmations and to take and certify the proof and acknowledgement of deeds and other instruments in writing to be recorded in said State, and that full faith and credit are and ought to be given all his official acts as such Notary Public, and that I am well acquainted with the handwriting of said Notary Public and verily believe that the signature to the attached certificate in his genuine signature and that the annexed instrument is executed and acknowledged according to the laws of the State of California, and I further certify that an impression of the seal of said Notary Public is not required by law to be filed in my office.

In witness whereof I have hereunto set my hand and affixed my official seal

7-29-85

Seal

R. C. Davidson

County Clerk of the County of Alameda and ex-officio Clerk of the Superior
Court of the State of California in and for the County of Alameda.

ENCLOSURE 1

Dixon, "Absorption Elution by Ammonia Extraction"



Forensic Serology NEWS



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Managing Editor--Allanna Sullivan

TECHNICAL ARTICLES

1976 - Number 2

OBSERVATIONS ON "The ABO and PGM Groups of Whitetail Deer Blood and Mixtures of Human and Whitetail Deer Blood"

✓
VIII. 12.1.

3y [Alph A. Marcucio,] Chemist
New York State Police Scientific
Laboratory, Albany, N.Y.
[John Youker,] Associate Professor
of Chemistry, Hudson Valley Commu-
nity College, Troy, N.Y.
[Philip R. Mills,] Forensic Science Laboratories,
John Jay College of Criminal Justice,
New York, N.Y.

The observations reported in this article came about as the result of a case that came to the attention of the New York State Police Scientific Laboratory.

The victim was last seen hitchhiking in the early morning hours, and was later reported missing by her friends. The complainant was hiking through a swamp and-fill area near a lake. As he approached the lake, he noticed what appeared to be a leg. Closer observation revealed the nude body of a female victim lying on her back and preliminary examination disclosed several stab wounds to the body. It was not known where the body had been at that time.

A suspect was later apprehended by leads developed through a witness who

reported having seen the victim enter a vehicle. The inside of the vehicle had several bloodstains on the floor. In addition, several blood-stained pillow cases were found in the vehicle. Upon examination, the pillow cases were found to contain both human and deer blood. ABO grouping of these bloodstains yielded group AB. The victim was of group O.

Control samples, consisting of human blood of groups A, B, and O mixed with deer blood, were analyzed by absorption-elution in tubes. (The anti-H used in these tests was prepared in the N.Y. State Police Laboratory from *Ulex* seeds according to Culliford's recipe.) While all human group samples mixed with deer blood yielded group AB results, the reactions were much stronger within the appropriate human blood group sample. (See Table 1)

PGM grouping was carried out on these samples as well, and the results showed a strong a band and a weak b band, resembling human PGM 2-1, but lacking the c, d, and further anodic bands. Samples containing deer blood developed much faster than human samples, and tended to overstain quickly. The results of PGM grouping on bloodstains prepared from deer blood are shown in Figure 1. The plate also contains a sample of cadaveric blood, which also tends to develop much more quickly than do ordinary samples, and therefore to

(continued on page 3)

TABLE 1

ABO Grouping of Human Bloodstains of Groups
A, B, and O mixed with Deer Bloodstains

Sample	anti-A stained	(A ₁ test cells) unstained	anti-B stained	(B cells) unstained	anti-H stained	(O cells) unstained	Group
A + deer	4+	-	2+	-	3+	-	AB
B + deer	2+	-	4+	-	-	-	AB
O + deer	2+	-	2+	-	4+	-	AB
O + deer	2+	-	4+	-	4+	-	AB

TABLE 2

Grouping of Control Human and Deer Blood Stains
by Absorption-Elution

Stain	Anti-A	Anti-B	Anti-H	Cloth Control
A ₂	+	-	+	-
B	-	+	±	-
O	-	-	+	-
Deer	+	+	+	-

(continued from page 1)
become overstained.

The ABO grouping of deer blood samples was repeated in the John Jay laboratories on a sample from a different deer with almost identical results. (See Table 2--The anti-H lectin used in these tests was purchased from Ortho.) The PGM grouping on the deer blood sample shown in Figure 1, as well as on samples from a different deer, was also repeated in the John Jay laboratories, and the results (See Figure 2) were identical to those shown in Figure 1.

While it has been known for quite some time that most mammal bloodstains will yield group B results when tested by the absorption-elution technique, the Whitetail deer samples are unusual in that they react with all the antisera.

The PGM results are interesting in the resemblance they show to a human 2-1, although the possibility of making an error seems remote. As far as we can tell, it is not clear from the literature whether PGM is indeed

polymorphic in Whitetail deer.

✓ U. M. I. C. (1)
" ABSORPTION ELUTION BY AMMONIA EXTRACTION "

By [Tim Dixon] Illinois Bureau of
Identification
[Bart Epstein] Minnesota Bureau of
Criminal Apprehension

Reagents

1. 5% solution of NH₄OH (approximately 58%).
2. 5% suspension of washed A, B and O cells in saline.
3. A, B (Ortho) and H anti-sera.*

Procedure

1. Dried blood preparations
 - A. Stain; cut out approximately .25cm².
 - B. Crust; put directly into approximately .3ml of 5% NH₄OH.
2. Agitate blood in the NH₄OH solution

- until a medium brown color is evident.
3. Add two drops of the extraction to each of three wells (marked A, B and O) of a conventional well slide and heat fix at 37° C.
4. Allow slides to cool at room temperature and then add known A, B and H anti sera respectively. Absorb for five minutes at room temperature.
5. Wash each well with cold running water for fifteen seconds per well.
6. Pat dry (each well) with a paper towel and add known A, B and O indicator cells respectively.
7. Elute at 37° C for ten minutes in a moisture chamber.
8. Read results microscopically.

*Anti-H Preparation

1. Grind 2 gms. of *Ulex Europaeus* Seeds (Schumacher Seed Company, Sandwich, Massachusetts).
2. Add 25 mls of petroleum ether and grind 5 minutes.
3. Allow to settle, and discard supernatant.
Repeat Steps 2 and 3.
Evaporate to dryness.
6. Add 20 mls of McIlvaine Buffer† and grind 5 minutes.
7. Settle for 3 hours with occasional agitation.
8. Centrifuge and settle for 48 hours in refrigerator.
9. Centrifuge, decant (top layer used) and freeze.

†McIlvaine Buffer

1. Citric Acid 1.86 gm.
2. (Anhydrous) Na₂HP0₄ 13.56 gm.
3. Na Azide .10 gm.
4. Distilled H₂O 1000 ml.

CURRENT LITERATURE

1. Blake, E.T. and Sensabaugh, G.F.: Sperm Diaphorase: Genetic Polymorphism of a Sperm-Specific Enzyme in Man.

Science, Vol. 191, No. 4232,
1185-1187 (March 1976)

Human sperm contains an enzyme with diaphorase activity that appears to be

unique to sperm. Electrophoretic analysis of the diaphorase activity in sperm of different individuals reveals three phenotypic patterns. This polymorphism can be explained in terms of two alleles segregating at an autosomal locus; the allele frequencies have been determined to be 0.71 and 0.29. This appears to be the first reported example of a sperm-specific genetic polymorphism in man; its existence raises a number of genetic and biochemical questions.

2. Kuhn, B.; Bissbort, S.; Kompf, J.; Ritter, H.: Red-Cell Uridine-5-Monophosphate Kinase (UMPCK).

Humangenetik 28: 255-258 (1975)

In a population sample from southwestern Germany the frequency of UMPCK was estimated to be 0.949. The segregation of the children's phenotypes is in agreement with the formal model: 2 common alleles UMPCK¹ and UMPCK² at an autosomal locus. Data on linkage relations are referred.

3. Barasso, C.; Eska, P.; Grindon, A.J.; Oyen, R.; Marsh, W.L.: Anti-K18: An Antibody Defining Another High-Frequency Antigen Related to the Kell Blood Group System.

Vox Sang. 29: 124-127 (1975)

A new antibody, designated as anti-K18, is associated with a high frequency red cell antigen that is related to the Kell blood group system. All of more than 2,000 bloods were K:18 but K₀ phenotype red cells are K: -18.

4. Kun Se Kwan and Sturgeon, P.: Biochemical and Immunological Studies on Salivary Blood Group Substances.

Vox Sang. 29: 128-144 (1975)

Salivas with various phenotypes were analyzed for chemical components and blood group activity after ultracentrifugation. Active blood group substances were isolated from saliva in the pellet formed by sedimentation. Both the supernatant and the pellet suspended in original volume were studied for content of fucose, total hexose, protein and sialic acid, and the presence of blood group activity. Paper chromatography

ENCLOSURE 2

Dillon, On the preparation of H-Lectin



Forensic Serology



1975 - Number 2

TECHNICAL NOTES/OBSERVATIONS

Two methods of anti-H lectin preparation from Ulex europaeus seeds (from: Sally I. Dillon, Illinois Bureau of Identification, Joliet, Illinois)

Anti-H Preparation - Saline Extract

1. Grind 10 grams of Ulex seeds
2. Soak ground seeds in 50 ml. of saline overnight.
3. Centrifuge. Discard seeds and solids.
4. Leave supernatant at 60°C. for 30 minutes.
5. Centrifuge. Discard Precipitate.
6. Store supernatant at -16°C to -20°C (or at 0 to -4°C with 0.04% Sodium Azide).

The above procedure was given at the Microanalysis of Dried Blood Workshop at John Jay by Bryan Culliford.

Anti-H Preparation - Pet. Ether extract

1. Grind 2 grams of Ulex europaeus seeds in a mortar (Grind well)
2. Add 25 ml. Petroleum ether and regrind for 5 minutes
3. Allow to settle, discard the supernatant.
4. Add a further 25 ml. Petroleum ether, mix, allow to settle, decant.
5. Allow all the solvent to volatilize, add 20 ml. McIlvaine Buffer.
6. Regrind, leave to stand a few hours, agitate occasionally.
7. Centrifuge, place in refrigerator at 4°C. for 2-3 days.
8. Disperse into 1 or 2 ml. ampoules, store frozen solid.

The above procedure is from "The ABO Grouping of Bloodstains" by Stuart S. Kind and is the procedure used by the Illinois Bureau of Identification Laboratories.

McIlvaine Buffer

Citric Acid (monohydrate)	1.86 g/l
Na ₂ HPO ₄ (anhydrous)	13.15 g/l
Sodium Azide (preservative)	0.01 g/l

Check pH with pH paper -- 7.6

ENCLOSURE 3
Code of Ethics - CAC

CALIFORNIA ASSOCIATION OF CRIMINALISTS

CODE OF ETHICS

This Code is intended as a guide to the ethical conduct of individual workers in the field of criminalistics. It is not to be construed that these principles are immutable laws nor that they are all-inclusive. Instead, they represent general standards which each worker should strive to meet. It is to be realized that each individual case may vary, just as does the evidence with which the criminalist is concerned, and no set of guides or rules will precisely fit every occasion. At the same time the fundamentals set forth in this Code are to be regarded as indicating, to a considerable extent, the conduct requirements expected of members of the profession and of this Association. A failure to meet or maintain certain of these standards will justifiably cast doubt upon an individual's fitness for this type of work. Serious or repeated infractions of these principles may be regarded as inconsistent with membership in the Association.

Criminalistics is that professional occupation concerned with the scientific analysis and examination of physical evidence, its interpretation, and its presentation in court. It involves the application of principles, techniques and methods of the physical sciences, and has as its primary objective a determination of physical facts which may be significant in legal cases.

It is the duty of any person practicing the profession of criminalistics to serve the interests of justice to the best of his ability at all times. In fulfilling this duty, he will use all of the scientific means at his command to ascertain all of the significant physical facts relative to the matters under investigation. Having made factual determinations, the criminalist must then interpret and evaluate his findings. In this he will be guided by experience and knowledge which, coupled with a serious consideration of his analytical findings and the application of sound judgment, may enable him to arrive at opinions and conclusions pertaining to the matters under study. These findings of fact and his conclusions and opinions should then be reported, with all the accuracy and skill of which the criminalist is capable, to the end that all may fully understand and be able to place the findings in their proper relationship to the problem at issue.

In carrying out these functions, the criminalist will be guided by those practices and procedures which are generally recognized within the profession to be consistent with a high level of professional ethics. The motives, methods, and actions of the criminalist shall at all times be above reproach, in good taste, and consistent with proper moral conduct.

I. ETHICS RELATING TO SCIENTIFIC METHOD:

- A. The criminalist has a truly scientific spirit and should be inquiring, progressive, logical and unbiased.
- B. The true scientist will make adequate examination of his materials, applying those tests essential to proof. He will not, merely for the sake of bolstering his conclusions, utilize unwarranted and superfluous tests in an attempt to give apparent greater weight to his results.
- C. The modern scientific mind is an open one incompatible with secrecy of method. Scientific analyses will not be conducted by "secret processes," nor will conclusions in case work be based upon such tests and experiments as will not be revealed to the profession.
- D. A proper scientific method demands reliability of validity in the materials analyzed. Conclusions will not be drawn from materials which themselves appear unrepresentative, atypical, or unreliable.
- E. A truly scientific method requires that no generally discredited or unreliable procedure be utilized in the analysis.
- F. The progressive worker will keep abreast of new developments in scientific methods and in all cases view them with an open mind. This is not to say that he need not be critical of untried or unproved methods, but he will recognize superior methods if and when they are introduced.

II. ETHICS RELATING TO OPINIONS AND CONCLUSIONS:

- A. Valid conclusions call for the application of proven methods. Where it is practical to do so, the competent criminalist will apply such methods throughout. This does not demand the application of "standard testing procedures," but, where practical, use should be made of those methods developed and recognized by this or other professional societies.
- B. Tests are designed to disclose true facts and all interpretations shall be consistent with that purpose and will not be knowingly distorted.
- C. Where appropriate to the correct interpretation of a test, experimental controls shall be made for verification.
- D. Where possible, the conclusions reached as a result of analytical tests are properly verified by re-testing or the application of additional techniques.

- E. Where test results are inconclusive or indefinite, any conclusions drawn shall be fully explained.
- F. The scientific mind is unbiased and refuses to be swayed by evidence or matters outside the specific materials under consideration. It is immune to suggestion, pressures, and coercions inconsistent with the evidence at hand: being interested only in ascertaining facts.
- G. The criminalist will be alert to recognize the significance of a test result as it may relate to the investigative aspects of a case. In this respect he will, however, scrupulously avoid confusing scientific fact with investigative theory in his interpretations.
- II. Scientific method demands that the individual be aware of his own limitations and refuse to extend himself beyond them. It is both proper and advisable that the scientific worker seek knowledge in new fields: he will not, however, be hasty to apply such knowledge before he has had adequate training and experience.
- I. Where test results are capable of being interpreted to the advantage of either side of a case, the criminalist will not choose that interpretation favoring the side by which he is employed merely as a means of justifying his employment.
- J. It is both wise and proper that the criminalist be aware of the various possible implications of his opinions and conclusions and be prepared to weigh them, if called upon to do so. In any such case, however, he will clearly distinguish between that which may be regarded as scientifically demonstrated fact and that which is speculative.

III. ETHICAL ASPECTS OF COURT PRESENTATION:

- A. The expert witness is one who has substantially greater knowledge of a given subject or science than has the average person. An expert opinion is properly defined as "the formal opinion of an expert." Ordinary opinion consists of one's thoughts or beliefs on matters, generally unsupported by detailed analysis of the subject under consideration. Expert opinion is also defined as the considered opinion of an expert, or a formal judgment. It is to be understood that an "expert opinion" is an opinion derived only from a formal consideration of a subject within the expert's knowledge and experience.
- B. The ethical expert does not take advantage of his privilege to express opinions by offering opinions on matters within his field of qualification to which he has not given formal consideration.

- C. Regardless of legal definitions, the criminalist will realize that there are degrees of certainty represented under the single term of "expert opinion." He will not take advantage of the general privilege to assign greater significance to an interpretation than is justified by the available data.
- D. Where circumstances indicate it to be proper, the expert will not hesitate to indicate that while he has an opinion, derived of study and judgment within his field, the opinion may lack the certainty of other opinions he might offer. By this or other means, he takes care to leave no false impressions in the minds of the jurors or the court.
- E. In all respects, the criminalist will avoid the use of terms and opinions which will be assigned greater weight than are due them. Where an opinion requires qualification or explanation, it is not only proper but incumbent upon the witness to offer such qualification.
- F. The expert witness should keep in mind that the lay juror is apt to assign greater or less significance to ordinary words of a scientist than to the same words when used by a lay witness. The criminalist, therefore, will avoid such terms as may be misconstrued or misunderstood.
- G. It is not the object of the criminalist's appearance in court to present only that evidence which supports the view of the side which employs him. He has a moral obligation to see to it that the court understands the evidence as it exists and to present it in an impartial manner.
- II. The criminalist will not by implication, knowingly or intentionally, assist the contestants in a case through such tactics as will implant a false impression in the minds of the jury.
- I. The criminalist, testifying as an expert witness, will make every effort to use understandable language in his explanations and demonstrations in order that the jury will obtain a true and valid concept of the testimony. The use of unclear, misleading, circuitous or ambiguous language with a view of confusing an issue in the minds of the court or jury is unethical.
- J. The criminalist will answer all questions put to him in a clear, straightforward manner and refuse to extend himself beyond his field of competence.

- K. Where the expert must prepare photographs or offer oral "background information" to the jury in respect to a specific type of analytic method, this information shall be reliable and valid, typifying the usual or normal basis for the method. The instructional material shall be of that level which will provide the jury with a proper basis for evaluating the subsequent evidence presentations, and not such as would provide them with a lower standard than the science demands.
- L. Any and all photographic displays shall be made according to acceptable practice, and shall not be intentionally altered or distorted with a view to misleading court or jury.
- M. By way of conveying information to the court, it is appropriate that any of a variety of demonstrative materials and methods be utilized by the expert witness. Such methods and materials shall not, however, be unduly sensational.

IV. ETHICS RELATING TO THE GENERAL PRACTICE OF CRIMINALISTICS:

- A. Where the criminalist engages in private practice, it is appropriate that he set a reasonable fee for his services.
- B. No services shall ever be rendered on a contingency fee basis.
- C. It shall be regarded as ethical for one criminalist to re-examine evidence materials previously submitted to or examined by another. Where a difference of opinion arises, however, as to the significance of the evidence or to test results, it is in the interest of the profession that every effort be made by both analysts to resolve their conflict before the case goes to trial.
- D. Generally, the principle of "attorney-client" relationship is considered to apply to the work of a physical evidence consultant, except in a situation where a miscarriage of justice might occur. Justice should be the guiding principle.
- E. It shall be ethical for one of this profession to serve an attorney in an advisory capacity regarding the interrogation of another expert who may be presenting testimony. This service must be performed in good faith and not maliciously. Its purpose is to prevent incompetent testimony but not to thwart justice.

V. ETHICAL RESPONSIBILITIES TO THE PROFESSION:

In order to advance the profession of criminalistics, to promote the purposes for which the Association was formed, and encourage harmonious relationships between all criminalists of the State, each criminalist has an obligation to conduct himself according to certain principles. These principles are no less matters of ethics than those outlined above. They differ primarily in being for the benefit of the profession rather than specific obligations to society. They therefore concern individuals and departments in their relationship with one another, business policies, and similar matters.

- A. It is in the interest of the profession that information concerning any new discoveries, developments, or techniques applicable to the field of criminalistics be made available to criminalists generally. A reasonable attempt should be made by any criminalist having knowledge of such developments to publicize or otherwise inform the profession of them.
- B. Consistent with this and like objectives, it is expected that the attention of the profession will be directed toward any tests or methods in use which appear invalid or unreliable in order that they may be properly investigated.
- C. In the interest of the profession, the individual criminalist should refrain from seeking publicity for himself or his accomplishments on specific cases. The preparation of papers for publication in appropriate media, however, is considered proper.
- D. The criminalist shall discourage the association of his name with developments, publications, or organizations in which he has played no significant part, merely as a means of gaining personal publicity or prestige.
- E. The C.A.C. has been organized primarily to encourage a free exchange of ideas and information between members. It is, therefore, incumbent upon each member to treat with due respect those statements and offerings made by his associates. It is appropriate that no member shall unnecessarily repeat statements or beliefs of another as expressed at C.A.C. seminars.
- F. It shall be ethical and proper for one criminalist to bring to the attention of the Association a violation of any of these ethical principles; indeed, it shall be mandatory where it appears that a serious infraction or repeated violations have been committed.
- G. This Code may be used by any criminalist in justification of his conduct in a given case with the understanding that he will have the full support of this Association.

Adopted: May 17, 1957

Revised: April 11, 1958

ENCLOSURE 4

Resume - Edward T. Blake



RESUME - EDWARD T. BLAKE

BIOGRAPHY

1. Birthdate: July 31, 1945
2. Birthplace: Honolulu, Hawaii

EDUCATION

1. Bachelor of Science (Criminalistics), University of California, Berkeley, 1968.
2. Doctor of Criminology (Forensic Science), University of California, Berkeley, 1976.

HONORS

1. Graduate research fellowship (2 years), NILE & CJ, Department of Justice. Grant #75-NI-99-0036, Grant Title: Determination of Genetic Markers in Human Semen.
2. Service Award, California Association of Criminalists, 1976, 1977.
3. Research Grant, NILE & CJ, Department of Justice. Grant Title: Genetic Markers in Human Semen: Application to Analysis of Semen Evidence in Sexual Assault Case Material, 1979 - 1981.

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1. Edward T. Blake, Paul J. Cashman and John I. Thornton, "Qualitative Analysis of Lysergic Acid Diethylamide by Means of the 10-Hydroxy Derivative", *Anal. Chem.*, 45 (2), (1973), 394-395.

2. Edward T. Blake and D. J. Dillon, "Microorganisms and the Presumptive Tests for Blood", *J. Pol. Sci. Admin.*, 1 (4), (1973), 395-400.
3. Kevin Caldwell, Edward T. Blake and G. F. Sensabaugh, "Sperm Diaphorase: Genetic Polymorphism of a Sperm-Specific Enzyme in Man", *Science*, 191, (1976), 1185-1187.
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5. Edward T. Blake and G. F. Sensabaugh, "Protein and Enzyme Polymorphisms in Human Semen", *For. Sci.*, 6, (1975), 108 (Abstract); *Internatl. Microform J. Leg. Med.*, 10, (1975), 21, (Text).
6. Edward T. Blake and G. F. Sensabaugh, "Esterase D Typing in Bloodstains", *For. Serol. News*, No. 5, (1975), 1-4.
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8. Edward T. Blake and G. F. Sensabaugh, "Expression of Genetic Variation in Human Semen", *Am. J. Hum. Genet.*, 29, (1977) 24A, (Abstract).
9. Edward T. Blake and G. F. Sensabaugh, "Genetic Markers in Human Semen: Quantitative of Polymorphic Proteins", *J. For. Sci.*, 23, (4), (1978), 717-729.
10. Edward T. Blake and G. F. Sensabaugh, "Haptoglobin Typing of Bloodstains: Electrophoresis of Immunoprecipitated Haptoglobin", *J. For. Sci. Soc.*, 18, 1978, 237-244.
11. David F. Katz, Edward T. Blake, Ross N. Mills and Irving Fatt, "A Microliter Oxygen Electrode System for Sperm Suspensions", *Fertil. Steril.*, 30 (6), (1978), 691-695.
12. G. F. Sensabaugh, E. T. Blake, and D. H. Northey, "Genetic Markers in Human Semen: III. Altercation of Phosphoglucumutase (PGM) Isozyme Patterns in Semen Contaminated with Saliva", *J. For. Sci.*, 25, (1980), 470-478.

PRESENTATIONS AT SCIENTIFIC MEETINGS

1. Edward T. Blake and D. J. Dillon, "Microorganisms and the Presumptive Tests for Blood", Fall semiannual seminar of the California Association of Criminalists, October, 1971.
2. Edward T. Blake, Paul J. Cashman and John I. Thornton, "Qualitative Analysis of Lysergic Acid Diethylamide by Means of the 10-Hydroxy Derivative", Spring semiannual seminar of the California Association of Criminalists, May, 1972.
3. Edward T. Blake, Donald L. Lofgren and G. F. Sensabaugh, "Distribution of Acid Phosphatases in Human Tissue", Spring semiannual seminar of the California Association of Criminalists, May, 1974.
4. Edward T. Blake and G. F. Sensabaugh, "Esterase D Polymorphism in Bloodstains", Fall semiannual seminar of the California Association of Criminalists, October, 1974.
5. Edward T. Blake and G. F. Sensabaugh, "Protein Polymorphisms in Human Semen", presented as part of a symposium on rape investigation, Fall semiannual seminar of the California Association of Criminalists, October, 1974.
6. Edward T. Blake and G. F. Sensabaugh, "Differential Expression of Amylase Loci (Amy₁ and Amy₂) in Human Body Fluids and Secretions", Spring semiannual seminar of the California Association of Criminalists, May, 1975.
7. Edward T. Blake and G. F. Sensabaugh, "Protein and Enzyme Polymorphisms in Human Semen", Seventh International Meeting of Forensic Sciences, Zurich, Switzerland, 1975.
8. Kevin Caldwell, Edward T. Blake and G. F. Sensabaugh, "Sperm Diaphorase: Genetic Polymorphism of a Sperm-Specific Enzyme in Man", Fall semiannual seminar of the California Association of Criminalists, October, 1975.
9. Edward T. Blake and G. F. Sensabaugh, "The Biochemical Genetics of Semen and the Investigation of Rape", Western Regional Meeting of the American Chemical Society, October, 1975.
10. Edward T. Blake and G. F. Sensabaugh, "Expression of Genetic Markers in Human Semen", American Academy of Forensic Sciences, Washington, D. C., February, 1976.

11. Edward T. Blake and G. F. Sensabaugh, "Haptoglobin Typing of Bloodstains by SDS Gel Electrophoresis of Immunoprecipitates", Spring semiannual seminar of the California Association of Criminalists, May, 1977.
12. Edward T. Blake and G. F. Sensabaugh, "Genetic Markers in Human Semen: Quantitative Levels of Polymorphic Proteins", American Chemical Society, Chicago, August, 1977.
13. Edward T. Blake and G. F. Sensabaugh, "Genetic Markers in Human Semen: III. Expression of Glyoxalase Activity in Seminal Plasma and Sperm", Spring semiannual seminar of the California Association of Criminalists, May, 1978.
14. G. F. Sensabaugh, E. T. Blake and D. Northey, "Modification of PGM Isozyme Patterns in Semen Contaminated with Saliva", Spring semiannual seminar of the California Association of Criminalists, May, 1978.
15. Edward T. Blake and G. F. Sensabaugh, "Synthesis and Clean-up Procedures for 4-Methylumbelliferone Phosphate", Spring semiannual seminar of the California Association of Criminalists, May, 1978.
16. G. F. Sensabaugh, Edward T. Blake and Dorothy H. Northey, "Modification of PGM Isozyme Patterns in Semen Contaminated with Saliva", presented to the American Academy of Forensic Sciences, February, 1979, Atlanta, Georgia.
17. Edward T. Blake, "Concurrent Typing of Gc and Tf on Agarose Gels", presented to the Fifty-fourth semiannual seminar of the California Association of Criminalists, October, 1979.
18. Edward T. Blake and the Northern California Biology Study Group, "Human Hair Comparisons: A Blind Trial Experiment", presented to the Fifty-fourth semiannual seminar of the California Association of Criminalists, October, 1979.
19. Keith E. Inman, George F. Sensabaugh and Edward T. Blake, "The Genetic Relationships of the Prostatic, Seminal, and Vaginal Acid Phosphatases", presented to the American Academy of Forensic Sciences, February, 1980, Atlanta, Georgia.
20. George F. Sensabaugh, Jan Bashinski, and Edward T. Blake, "Rates of Drying of Vaginal Swabs", presented to the Fifty-fourth semiannual seminar of the California Association of Criminalists, May, 1980, Santa Barbara, California.

21. George F. Sensabaugh, Jan Bashinski and Edward T. Blake, "Titres of ABH Blood Group Substances in Human Semen", presented to the Fifty-fifth semiannual seminar of the California Association of Criminalists, May, 1980, Santa Barbara, California.
22. Edward T. Blake, George F. Sensabaugh, and Jan Bashinski, "Survival of Markers in Preserved Semen Samples", presented to the Fifty-fifth semiannual seminar of the California Association of Criminalists, May, 1980, Santa Barbara, Calif.
23. George F. Sensabaugh, Jan Bashinski, and Edward T. Blake, "Rates of Drying of Vaginal Swabs: An Update", presented to the Fifty-sixth semiannual seminar of the California Association of Criminalists, November, 1980, Yosemite, Calif.
24. Edward T. Blake, George F. Sensabaugh, and Jan Bashinski, "Levels of Genetic Markers in Vaginal Fluids", presented to the Fifty-sixth semiannual seminar of the California Association of Criminalists, November, 1980, Yosemite, Calif.
25. Edward T. Blake, George F. Sensabaugh, and Jan Bashinski, "A Systematic Approach to the Analysis of Semen Evidence", presented to the Fifty-sixth semiannual seminar of the California Association of Criminalists, November, 1980, Yosemite, California.
26. Mary Gibbons, Edward T. Blake, George F. Sensabaugh, and Jan Bashinski, "A Systematic Approach to the Analysis of Semen Evidence: Case Reports", presented to the Fifty-sixth semiannual seminar of the California Association of Criminalists, November, 1980, Yosemite, California.
27. Edward T. Blake, George F. Sensabaugh, "A Systematic Approach to the Analysis of Semen Evidence", presented to the Thirty-third annual meeting of the American Academy of Forensic Sciences, February, 1981, Los Angeles, California.
28. George F. Sensabaugh, Edward T. Blake, and Jan Bashinski, "Titers of ABH Blood Group Substances in Human Semen", presented to the Thirty-third annual meeting of the American Academy of Forensic Sciences, February, 1981, Los Angeles, California.
29. Edward T. Blake, George F. Sensabaugh, and Jan Bashinski, "Levels of Genetic Markers in Vaginal Fluids", presented to the Thirty-third annual meeting of the American Academy of Forensic Sciences, February, 1981, Los Angeles, California.

30. George F. Sensabaugh, Edward T. Blake and Jan Bashinski, "Acid Phosphatase Stability in Dried Semen Stains is a Function of Stain 'Dryness'", presented to the Thirty-third annual meeting of the American Academy of Forensic Sciences, February, 1981, Los Angeles, California.
31. George F. Sensabaugh, Jan Bashinski, and Edward T. Blake, "Rates of Drying of Vaginal Swabs", presented to the Thirty-third annual meeting of the American Academy of Forensic Sciences, February, 1981, Los Angeles, California.
32. Edward T. Blake, George F. Sensabaugh, and Jan Bashinski, "The Quantitative Acid Phosphatase Test: An Indicator for Decision Making in the Analysis of Semen Evidence", presented to the Thirty-third annual meeting of the American Academy of Forensic Sciences, February, 1981, Los Angeles, California.
33. Peter D. Barnett, Edward T. Blake, and Robert R. Ogle, "The Role of the Independent Expert: Several Case Examples", presented to the Thirty-third annual meeting of the American Academy of Forensic Sciences, February, 1981, Los Angeles, California.
34. Edward T. Blake, "Recent Research in the Forensic Analysis of Semen", presented to the Northwest Association of Forensic Scientists, March, 1981, Missoula, Montana.
35. Edward T. Blake, George F. Sensabaugh, and Jan Bashinski, "Considerations on the Analysis of Semen Swab Evidence", presented to the annual meeting of the Canadian Society of Forensic Sciences, August, 1981, Toronto, Canada.
36. Edward T. Blake, James Kearney, Mark Stolorow, and Brian Wraxall, panelists, Serology Panel Discussion, combined seminar of the California Association of Criminalists and the Northwest Assoc. of Forensic Scientists, Lake Tahoe, Fall, 1981.
37. Gary Harmor, Brian Wraxall, and Edward T. Blake, "Multisystem Approach to Red Cell Black Population Markers: Group IV", combined seminar of the California Association of Criminalists and the Northwest Assoc. of Forensic Scientists, Lake Tahoe, Fall, 1981.
38. Edward T. Blake, George F. Sensabaugh, and Jan Bashinski, "Purification and Serological Studies on Two Lectin Specificities from Ulex Europeus Seeds: A Preliminary Report", combined seminar of the California Association of Criminalists and the Northwest Assoc. of Forensic Scientists, Lake Tahoe, Fall, 1981.

39. Edward T. Blake, Mary Gibbons, Jan Bashinski, and George F. Sensabaugh, "Comparative Stabilities of Markers in Semen", combined seminar of the California Association of Criminalists and the Northwest Association of Forensic Scientists, Lake Tahoe, Fall, 1981.
40. Edward T. Blake, Mary Gibbons, George F. Sensabaugh, and Jan Bashinski, "Population Survey and Stability Studies of P30 in Semen", combined seminar of the California Association of Criminalists and the Northwest Assoc. of Forensic Scientists, Lake Tahoe, Fall, 1981.
41. George F. Sensabaugh, Howard Graves, Edward T. Blake and Jan Bashinski, "Development of an Elisa Assay for Human Seminal P30," presented to the American Academy of Forensic Sciences, Orlando, Florida, February, 1982.
42. Edward T. Blake, Mary Gibbons, Jan Bashinski and George F. Sensabaugh, "Comparative Stabilities of Markers in Semen", presented to the American Academy of Forensic Sciences, Orlando, Florida, February, 1982.
43. Edward T. Blake, Mary Gibbons, George F. Sensabaugh, and Jan Bashinski, "Population Survey and Stability Studies of P30 in Semen", presented to the American Academy of Forensic Sciences, Orlando, Florida, February, 1982.
44. Edward T. Blake, "Progressive Desialidation of Human Transferrin", presented at the combined meeting of the Interamerican Congress of Forensic Sciences and the California Association of Criminalists, November, 1982, Sacramento, California.
45. Edward T. Blake, "Transferrin: A Potential Diagnostic Indicator of Desialidation Reactions in Blood", presented at the combined meeting of the Interamerican Congress of Forensic Sciences and the California Association of Criminalists, November, 1982, Sacramento, California.
46. Mary Gibbons, Edward T. Blake, and George F. Sensabaugh, "Lewis A and B Levels in Vaginal Fluid: A Preliminary Study", presented at the combined meeting of the Interamerican Congress of Forensic Sciences, November, 1982, Sacramento, California.
47. Edward T. Blake, "Progressive Desialidation of Human Transferrin", presented at the American Academy of Forensic Sciences, February 1983, Cincinnati, Ohio.

48. Edward T. Blake, "Transferrin: A Potential Diagnostic Indicator of Desialidation Reactions in Blood", presented at the American Academy of Forensic Sciences, February, 1983, Cincinnati, Ohio.
49. Edward T. Blake, "Biochemical Analysis of Sexual Assault Evidence: Current State of the Art", presented at the American Academy of Forensic Sciences, February, 1983, Cincinnati, Ohio.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

1. California Association of Criminalists
2. Sigma Xi
3. American Society of Human Genetics
4. American Association for the Advancement of Science
5. New York Academy of Sciences
6. American Academy of Forensic Sciences

WORK EXPERIENCE IN THE FORENSIC SCIENCES

1. Paul L. Kirk & Associates, 1969 - 1970.
2. Contra Costa County Sheriff's Office Criminalistics Laboratory, Intern, 1971 - 1972.
3. Teaching Assistant, Forensic Science Program, University of California, Berkeley, 1972 - 1973.
4. Graduate Research Fellow, University of California, Berkeley, 1973 - 1975.
5. Research Assistant, University of California, Berkeley, 1975 - 1977.
6. Consultant in Forensic Biology, 1975 - present

RESUME UPDATE

HONORS

4. Research Grant, NILE & CJ, Department of Justice.
Grant Title: Genetic Markers in Human Semen: Resolution of Some Current Issues Affecting the Interpretation of Semen Evidence in Sexual Assault Cases, 1983-1985.
5. Service Award, California Association of Criminalists, 1984.
6. Distinguished Member Award, California Association of Criminalists, 1985.

Publications

13. Howard C.B. Graves, George F. Sensabaugh, and Edward T. Blake, "Postcoital Detection of a Male-Specific Semen Protein, Application to the Investigation of Rape," N Engl J Med, 312, (1985), 338-343.
14. George F. Sensabaugh, Jan Bashinski, and Edward T. Blake, "The Laboratory's Role in Investigation of Rape," Diaq. Med. 8(3), 1985, 46-53.

Presentations at Scientific Meetings

50. Edward T. Blake, "Comparative Stability of Semen Proteins and Other Genetic Markers," guest Lecture, Forensic Science Symposium on the Analysis of Sexual Assault Evidence, FBI Academy, Quantico, July, 1983.
51. "Prostate Antigen/p30 and Prostatic Acid Phosphatase," Workshop Instructor, Forensic Science Symposium on the Analysis of Sexual Assault Evidence, FBI Academy, Quantico, July, 1983.
52. "PGM Survival in Actively and Passively Dried Vaginal Swabs: Studies on Case Specimens," Edward T. Blake, Charles E. Cook, Jr., and Jan S. Bashinski, Spring semiannual seminar of the California Association of Criminalists, May, 1985.
53. "Distribution of Amylase Activity in Vaginal Swabs: Studies on Case Samples," Edward T. Blake, Charles E. Cook, Jr., and Jan S. Bashinski, Spring semiannual seminar of the California Association of Criminalists, May, 1985.
54. "Semen and Saliva Revisited: Reversal of PGM Degradation in Mixtures by Reducing Agent," Edward T. Blake, Charles E. Cook, Jr., and Jan S. Bashinski, Spring semiannual seminar of the California Association of Criminalists, May, 1985.

55. "The Detection of Spermatozoa on Vaginal Swabs from Victims of Sexual Assault: The ER versus the Crime Lab," Jan S. Bashinski, Edward T. Blake, and Charles E. Cook, Jr., Spring semiannual seminar of the California Association of Criminalists, May, 1985.
56. "A Profile of the Medical Case Histories of Sexual Assault Victims in Oakland," Jan S. Bashinski, Edward T. Blake, and Charles E. Cook, Jr., Spring semiannual seminar of the California Association of Criminalists, May, 1985.

STATE OF ILLINOIS)
COUNTY OF C O O K) ss.

IN THE CIRCUIT COURT OF COOK COUNTY
COUNTY DEPARTMENT, CRIMINAL DIVISION

PEOPLE OF THE STATE OF ILLINOIS)

Plaintiff,

vs .

NO. P.C. 4333

GARY E. DOTSON

Defendant.

A F F I D A V I T

I, Timothy Dixon, being first duly sworn, state as follows:

1. That I am presently a forensic scientist employed by the State of Illinois Crime Lab, and have been so employed since May, 1970.

2. That my educational background includes a Bachelor of Science degree from Loras College in Dubuque, Iowa in 1966 with a major in biology and a minor in chemistry, a second major in education from Aurora College in 1968, with a Standard High School Teaching Certificate. From 1968 to 1970 I served in the United States Army in the United States and Viet Nam and was trained as a medical laboratory technician.

3. I have previously been a member of the following professional organizations: Abstractor for the Journal of Police Science and Administration, Member of the International Association for Identification, Member of the American Society of Medical Technologists, Member of the Association of Firearm and Tool Mark Examiners, American Society of Crime Laboratory Directors, Member of the Midwestern Association of Forensic Scientists, and American Management Association.

I am still an active member in the last two.

4. I have published the following articles in the field of forensic science: A Modified Method of LDH Isoenzyme Electrophoresis in the Identification of Menstrual Bloodstains - Journal of Police Science and Administration (1974), An SEM Study of Dried Blood - Journal of Forensic Sciences (1976), Trace Evidence in a Toolmarks Case - AFTE Journal (1975), Elimination by Class Characteristics - AFTE Journal (1976), and Absorption-Elution by Ammonia Extraction - Forensic Serology News (1976).

5. I attended a three day course in 1972 at the University of California at Berkeley entitled "Modern Techniques for Characterizing Dried Blood Stains". This course was given jointly by the University Extension and the School of Criminology. I attended and completed this course receiving a passing grade and two quarter credit hours. The University's brochure on this course is attached hereto as an exhibit.

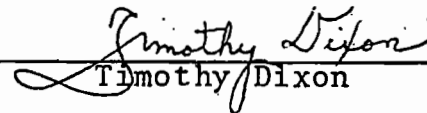
6. In 1977 I received evidence in the case of People vs. Gary Dotson. Subsequently I examined a pair of panties so submitted. On the panties I found a seminal stain. On this stain I performed the single test called absorption-elution to attempt to ascertain ABO typing. Based on absorption-elution I detected blood group substance B as reflected in my report (see attached).

7. Absorption-elution, I believed in 1977, could detect blood group substance from non-secretors as well as secretors. Since the absorption-elution technique detected no A, I excluded all A's and AB's as possible sources.

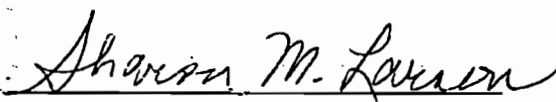
8. During this testing procedure I also used an anti-H lectin which was commercially prepared and purchased by the Crime Lab. Using this reagent I detected no H substance, therefore I excluded as potential contributors to this stain all O blood group persons (who have this H substance).

9. According to the 1979 trial transcript, I testified that "the seminal material was from a Group B secretor". In fact my testing by absorption-elution which found blood group substance B indicates that the possible contributor was a B secretor or a B non-secretor. The latter would add approximately 1-2% of the population.

10. I further examined several pubic hair standards of Dotson and Crowell against evidence pubic hairs found on Crowell the night of July 9, 1977. It was my opinion at that time and continues to be my opinion today that the evidence hairs are similar in the same respect to which I testified at trial and as reflected in my lab report (see attached). It is not extraordinary for two forensic scientists to disagree in their opinion in such matters. In no respect did I misrepresent my finding in this area.


Timothy Dixon

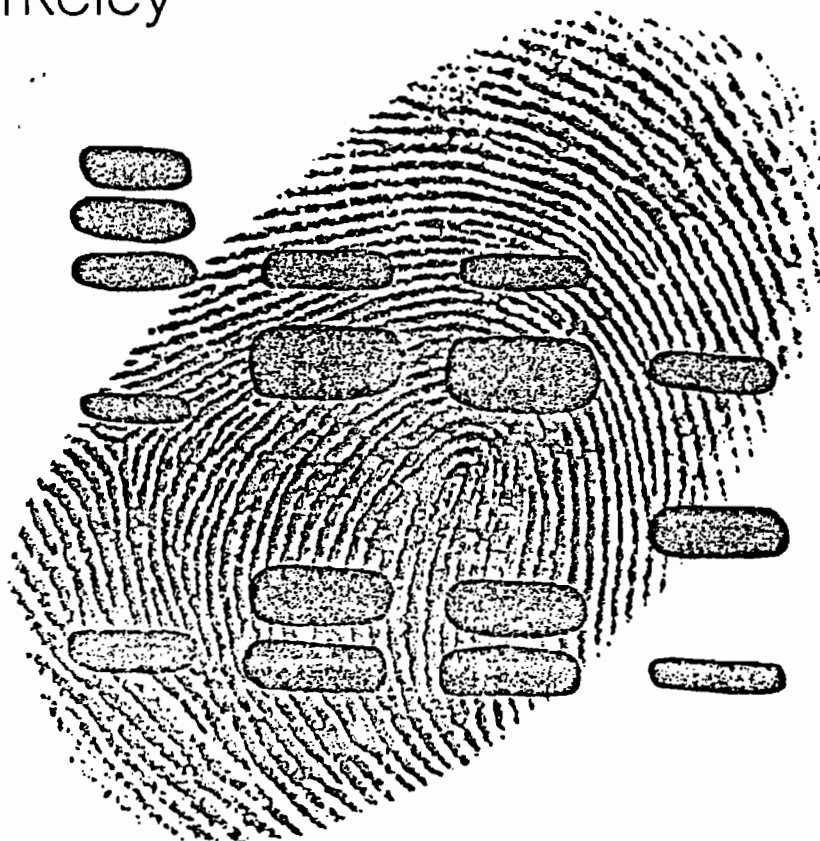
SUBSCRIBED AND SWORN to
before me this 17th day
of May, 1985.


Notary Public

University Extension and School of Criminology
University of California, Berkeley

Modern Techniques for Characterizing Dried Bloodstains

November 17-19, 1972
Berkeley



University Extension and the
School of Criminology
University of California, Berkeley

present

Modern Techniques for Characterizing Dried Bloodstains

X 421

Friday evening - Sunday afternoon,
November 17-19, 1972

This course of lectures and demonstrations is intended for forensic scientists who are engaged in the detection, species determination, blood grouping, and serum grouping of dried bloodstains. The objective is to introduce to criminalists in the United States the advanced blood examination techniques developed in Great Britain. Specific electrophoretic techniques to be discussed and demonstrated are:

- I. Polymorphic Enzyme Systems
 1. Phosphoglucomutase (PGM)
 2. Adenylate Kinase
 3. 6-Phosphogluconate Dehydrogenase (PGD)
 4. Adenosine Deaminase (ADA)
- II. Polymorphic Protein Systems
 1. Haptoglobin
 2. Hemoglobin
- III. Erythrocyte Acid Phosphate

The instructor is BRYAN J. CULLIFORD, Senior Principal Scientific Officer, Forensic Science Laboratory, Metropolitan Police, London, England. Mr. Culliford is the inventor and researcher who developed the work on electrophoresis of genetic variance in bloodstains, and is the author of *The Examination and Typing of Bloodstains in the Crime Laboratory*.

The course coordinator is Gerald T. Mitosinka, Criminalist, Contra Costa County Sheriff's Department, Martinez, California.

Schedule: Friday, November 17, 7-10 p.m.; Saturday and Sunday, November 18 and 19, 8:30 a.m. - 5 p.m. Registration, Friday, 6:30 p.m.

Location: Physical Sciences Lecture Hall, University of California, Berkeley campus. A map showing location of the hall and parking areas will be sent upon request.

Credit: Two quarter units in Criminology, optional

Fee: \$100. Personnel from law enforcement, corrections, and courts may apply for LEEP tuition grants providing they enroll in the course for credit. To receive a grant application, please complete the form provided in this leaflet. Persons who do not want to enroll for credit or who do not qualify for LEEP tuition grants, please write or call University Extension at the address below.

Since University Extension is self-supporting, this program must meet a minimum enrollment. If the minimum is not reached by November 3, the program will be cancelled so that both the instructor and the enrollees can be notified. If adequate enrollment has been established, you may, of course, register at the door at the opening of the program

For further information write or telephone University Extension, University of California, 2223 Fulton Street, Berkeley, California 94720; telephone (415) 642-1064.

(415) 642-1111

Rene Smith

Application for LEEP Tuition Grant

Mail to LEEP, University Extension, University of California, 2223 Fulton Street, Berkeley, California 94720.

I wish to enroll in the course on Modern Techniques for Characterizing Dried Bloodstains X 421, November 17-19, 1972, Berkeley.
Please send LEEP application forms to:

Name _____
last first middle

Address _____
number and street

city state ZIP

_____ Daytime telephone

XTO5/72-317a
UNIVERSITY EXTENSION
UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA 94720

Nonprofit
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st Theodore P. Elzerman
Crime Lab. Supervisor
State Crime Lab. Ill.
515 East Woodruff Rd.
Joliet, Illinois 60432

T-10

RECEIVED
CRIME
LABORATORY
JUL 11 1972

800-972(17317)

BUREAU OF IDENTIFICATION

JOLIET, ILLINOIS

TO: Mr. William P. Nolan
Chief of Police
Homewood Police Department
Homewood, Illinois 60430

July 14, 1977

July 14, 1977

TO: Mr. William P. Nolan
Chief of Police
Homewood Police Department
Homewood, Illinois 60430

ATTENTION: PATROLMAN GEDZUN

RE: CASE #J-77-1993
AGENCY #30769

VICTIM:
OFFENSE:

CATHLEEN A. CROWELL
RAPE / KIDNAPPING

EVIDENCE RECEIVED:

On July 11, 1977, the following items of evidence were received at the Joliet Crime Laboratory:

2. One sealed plastic bag marked..."1 uniform blouse Case #30769..."

3. One sealed brown paper bag marked..."1 - apron Case #30769..."

4. One sealed plastic bag marked..."1 pr. slacks Case #30769..."

5. One sealed brown paper bag marked..."Case #30769 - 1 bra..."

6. One sealed brown paper bag marked..."1 pr. panties Case #30769..."

7. One plastic cont. marked..."Case #30769 - Vaginal secretion sample..."

8. One sealed yellow envelope marked..."Case #30769 - combing..."

9. One sealed yellow envelope marked..."Case #30769 - PT. standard of hair..."

Respectfully submitted

Respectfully submitted
J. Edgar Hoover

BUREAU OF IDENTIFICATION

JOLIET, ILLINOIS

TO: Mr. William P. Nolan
RE: CASE #J-77-1995

- 2 -

July 14, 1977

EXAMINATION AND RESULTS:

2: Blouse

Groups A & B or AB blood is present on the inside of the left sleeve.

3: Apron

Negative evidential value.

4: Slacks

Groups A & B or AB blood is present in the crotch area.

It should be noted that the zipper is torn apart and a button is missing in front.

5: Bra

It should be noted that two eyes are missing and one eye is on a hook.

6: Panties

Seminal material is present in the crotch area.

Groups A & B or AB and O blood mixture is present in the crotch area.

A Caucasian pubic hair dissimilar to the pubic hair standard of the victim was removed from the crotch area.

7: No male reproductive cells were found on the vaginal slides.

* 8: The pubic hair bombing of the victim contains several Caucasian pubic hairs dissimilar to the pubic hair standard of the victim, Item 9.

CONCLUSION:

A pubic hair standard of the suspect should be submitted for comparison.

An attempt to type (ABO group) the seminal material will be made upon the submission of a liquid blood and saliva standard of the suspect and a liquid blood standard of the victim.

Respectfully submitted,

Timothy R. Dixon
Criminalist

TED:sls

BUREAU OF IDENTIFICATION

JOLIET, ILLINOIS

July 20, 1977

TO: Mr. William P. Nolan
Chief of Police
Homewood Police Department
Homewood, Illinois 60430

ATTENTION: DETECTIVE JERALD C. BRANDT

RE: CASE #J-77-1993
(SUPPLEMENTAL REPORT)
AGENCY #30769

VICTIM:
OFFENSE:
SUSPECT:

CATHLEEN M. BROWELL
RAPE
GARY E. DOTSON

EVIDENCE RECEIVED:

On July 20, 1977, the following item of evidence was received from Officer Boyles of the Homewood Police Department:

1. One sealed yellow envelope alleged to contain one pair of shorts of the suspect.

EXAMINATION AND RESULTS:

- 1: At your request, the shorts were examined for Caucasian pubic hairs with negative results. Two hairs, animal in origin, were removed from the shorts.

Respectfully submitted,

Timothy R. Dixon
Criminalist

TRD:sls

Bureau of Scientific Services
Joliet Laboratory
515 E. Woodruff Road
Joliet, IL 60432
815-727-5301

March 6, 1978

TO: Mr. William P. Nolan
Chief of Police
Homewood Police Department
Homewood, IL 60430

ATTENTION: PATROLMAN GEDZUN

RE: CASE #8-77-1005
Supplementary Report
AGENCY #30769

VICTIM:
OFFENSE:
SUSPECT:

CATHLEEN CROWELL
RAPE AND KIDNAPPING
GARY DOTSON

EVIDENCE RECEIVED:

On March 1, 1978 the following items of evidence were received from Investigator William Smith of Cook County Sheriff's Police Department:

1. Test tubes of blood from Gary Dotson.
2. Envelope with pubic hair standard of Gary Dotson.

EXAMINATION AND RESULTS:

- 1: AED = B = suspect.
- 2: Item 6, panties, and Item 8, pubic hair combing of the victim, contain hairs similar microscopically in color and characteristics to the pubic hair standard of the suspect.

CONCLUSION:

A liquid saliva standard of the suspect and a liquid saliva and blood standard of the victim should be submitted for comparison.

Respectfully submitted,

Timothy R. Dixon
Forensic Scientist III

TRD:jma
cc: Cook County Sheriff's Police, S.A.O.

Bureau of Scientific Services
Joliet Laboratory
515 N. Woodruff Road
Joliet, IL 60432
815-727-8301

March 24, 1978

TO: Mr. William P. Nolan
Chief of Police
Homewood Police Department
Homewood, IL 60430

ATTENTION: PATROLMAN GREGG

RE: CASE 6J-77-1926
Supplementary Report
AGENCY #30769

VICTIM:
OFFENSE:
SUSPECT:

CATHLEEN CROWELL
RAPE AND KIDNAPPING
GARY DOTSON

EVIDENCE RECEIVED:

On March 20, 1978 at approximately 11:30 A.M. a Caucasian male, identified to me as Gary Dotson, came into the Serology Unit of the Joliet Bureau of Scientific Services for the purpose of having his saliva examined for secretor status.

EXAMINATION AND RESULTS:

Gary Dotson is a Group B secretor.

Respectfully submitted,

Timothy B. Dixon
Forensic Scientist III

TED:jma

cc: Cook County Sheriff's Police S.A.O.

Bureau of Scientific Services
Joliet Laboratory
815 East Woodruff Road
Joliet, Illinois 60432
815/727-5301

May 15, 1978

TO: Mr. William F. Nolan
Chief of Police
Homewood Police Department
Homewood, Illinois 60430

ATTENTION: PATROLMAN GRIZUM

RE: CASE 77-1838 (SUPPLEMENTAL REPC
AGENCY 830763

VICTIM:
OFFENSE:
SUSPECT:

CATHERINE M. CROWELL
LARI
GARY DOTEON

EVIDENCE SUBMITTED:

On April 4, 1978, the following items of evidence were received from Investigator William Smith of the Cook County State's Attorney's Office:

1. Tube containing blood of victim.
2. Bottle containing saliva of victim.

EXAMINATION AND RESULTS:

1. Blood of victim:

ABO - B

2. Saliva of victim:

Group B Secretor

CONCLUSION:

The panties, Item 6 (7-11-77), should be re-submitted by the Homewood Police Department so that an attempt could be made to ABO type the seminal material identified on them.

Respectfully submitted,

Timothy R. Dixon
Forensic Scientist III

TRD:sls

cc: Cook County State's Attorney's Office



DEPARTMENT OF LAW ENFORCEMENT
DIVISION OF SUPPORT SERVICES
JOHN G. LANDERS - DEPUTY DIRECTOR

Bureau of Scientific Services
Joliet Laboratory
515 E. Woodruff Road
Joliet, Illinois 60432
(815) 727-5301

August 15, 1978

TO: Chief of Police
Homewood Police Department
Homewood, Illinois 60430

ATTENTION: PATROLMAN GEDZUN

RE: CASE #J-77-1995
(SUPPLEMENTARY REPORT)
AGENCY #30769

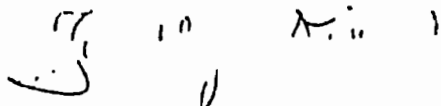
CASE NAME:

CATHLEEN CROWELL

The results of the examination of the evidence resubmitted on May 22, 1978, at the Bureau of Scientific Services, Joliet Laboratory, are given below:

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>RESULTS OF EXAMINATION</u>
6	panties of victim	Group B blood group substance was present in the seminal material.

Respectfully submitted,


Timothy R. Dixon
Forensic Scientist III

TRD:lmn

STATE OF ILLINOIS)
COUNTY OF C O O K) ss.

IN THE CIRCUIT COURT OF COOK COUNTY
COUNTY DEPARTMENT, CRIMINAL DIVISION

PEOPLE OF THE STATE OF ILLINOIS)

vs.

NO. P.C. 4333

GARY E. DOTSON

A F F I D A V I T

I, Mark Stolorow, being first duly sworn, state as follows:

1. That I am a forensic serologist, presently employed as Serology Coordinator, Training and Applications Laboratory, at the Bureau of Scientific Services of the Illinois Department of Law Enforcement and have been so since June, 1979.

2. Attached is a true and accurate copy of my Curriculum Vitae.

3. On March 28, 1985, known standards of whole blood, dried saliva, head hair, and pubic hair from David Beirne were received in the Joliet Laboratory.

4. On April 2, 1985, evidence from the 1979 trial of Gary Dotson was received in the Joliet Laboratory.

5. On April 4, 1985, known standards of whole blood and dried saliva from Gary Dotson and Cathleen Crowell Webb were received in the laboratory.

6. Between April 4, 1985 and April 9, 1985, the following analytical determinations were made:

- a. Seminal material was identified in the stain located in the panties.
- b. The stain in the panties was ABO typed by the method of Absorption Inhibition and demonstrated the presence of B and H antigens.
- c. The standard blood sample and dried saliva sample of Beirne, Webb and Dotson were analyzed with the following results:
 1. David Beirne is group O and secretes H antigen.
 2. Gary Dotson is group B and secretes B and H antigen.
 3. Cathleen Crowell Webb is group B and secretes B and H antigen.
- d. The seminal material in the panties could have originated from one or more individuals of the following blood groups and secretor status:
 1. B secretor
 2. O secretor
 3. A, AB, B, or O non-secretor
- e. The combination of the groups listed in d. above occurs in approximately 66% of the United States Caucasian population and approximately 78% of the United States Black population.

7. Tim Dixon's tests did not detect any H antigenic activity. My tests did detect H antigenic activity. Because the H activity could either have originated from an O secretor or from a type B secretor (secreting B and H activity) I must include as potential contributors to the seminal stain O secretors which add 45% of white population and 49% of Blacks. Tim Dixon who did not detect H activity did not include this group of the population.

8. The substance used to detect H activity is called H-lectin. The H-lectin used by the Illinois Department of Law Enforcement Laboratories in 1977 was reportedly commercially prepared and subsequently shown to be too weak, causing, in some instances, a false negative (i.e. failure to detect H activity). This reportedly happened in 1977 in this case.

In June, 1979, the Illinois Department of Law Enforcement Laboratories substituted an H-lectin that was produced in the laboratory and considered to be perhaps up to 32 times stronger than the lectin used by Tim Dixon. Using this more sensitive reagent in 1985, I did detect H antigenic activity and thus included blood group O secretors among possible sources of the semen in Cathleen Webb's panties.

9. With respect to Tim Dixon's ABO typing of the seminal/vaginal secretion stain in the panties of Cathleen Webb, I disagree with the exclusive selection of the absorption elution method used.

Furthermore, a forensic serologist confident in the accuracy of the absorption elution method of ABO typing secretion stains might arguably conclude that the finding of B antigen activity could have originated from either a B secretor or a B non-secretor, but not exclusively from a B secretor. In this respect I disagree with Tim Dixon in that his conclusion should have included at least B non-secretors (approximately 1-2% of the population) as well as B secretors as possible donors of the seminal stain.

With respect to Tim Dixon's method and conclusion in the ABO typing of the secretion stain in the panties of Cathleen Webb, it is my opinion, based on a review of Tim Dixon's worknotes, laboratory reports, and testimony, that Tim Dixon erred; however, there is no evidence of falsification or intentional misrepresentation of either his findings or his interpretation given the procedures used by Tim Dixon in 1977.

10. I examined a total of eight evidence pubic hairs reportedly recovered from Cathleen Webb on July 9, 1977. One hair was recovered from the panties and seven hairs were collected in the pubic hair combing of Cathleen Webb.

In my opinion, the hair from the panties was in such a condition that rendered the hair unsuitable for meaningful comparison.

Of the seven hairs from the pubic combing, it is my opinion that five are microscopically consistent with the pubic hair standard of Cathleen Webb and could have originated from her. These five hairs are dissimilar to the pubic hair standards of Gary Dotson and David Beirne and did not originate from either of them.

Of the seven hairs from the pubic combing, it is my opinion, one is microscopically consistent with the pubic hair standard of Gary Dotson and could have originated from him. This hair is dissimilar to the pubic hair standards of Cathleen Webb and David Beirne.

Of the seven hairs from the pubic combing, the one remaining hair is inconclusive with respect to the pubic hair standards of Cathleen Webb and Gary Dotson. This hair is dissimilar to the pubic hair standard of David Beirne.

While I concur with Tim Dixon's opinion that at least one of the evidence hairs is microscopically consistent with the pubic hair standard of Gary Dotson, I disagree with the conclusion of Tim Dixon with regard to other evidence hairs being consistent with the pubic hair standard of Gary Dotson.

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However, again, having reviewed Tim Dixon's worknotes, laboratory reports and testimony there is no evidence of falsification or intentional misrepresentation of either the findings or the interpretation of the pubic hair analysis by Tim Dixon.



Mark Stolorow

SUBSCRIBED AND SWORN to before me this 29th day of
May, A.D. 1985.


Notary Public