

DON'T TAKE "DNA" FOR AN ANSWER
DNA SEMINAR
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The Fear of DNA

You are appointed to represent a young man charged in high profile rape – murder case. In his news conference announcing the arrest, the Sheriff thanks all the deputies, the other local law enforcement agencies, all those who called in tips to Crimestoppers, but, “Most of all, thanks to the SBI Crime Laboratory for letting us know about the DNA match.” What do you do? You’ve been going around talking about the wonder of DNA evidence. It’s has helped free over 180 innocent people from prison. How can you argue with it?

The Plan of Action

Should you: (a) call the D.A. and find out about the chance of a plea? (b) Go see your client and find out what his story is? (c) Hire a DNA expert (a molecular geneticist, or a neurogeneticist) to review the SBI evidence and give you some advice? Or, (d) Serve some discovery requests so that you can see the raw data and have access to all the working papers and notes from the lab, including proficiency tests of the lab technicians? The answer is, all of the above. Just because there is DNA evidence, or an alleged DNA match, do not assume your client is guilty or that the testing is correct. Despite the DNA, you still might escort your innocent client out of the courtroom and back into freedom one day. But do not give up! Do not take DNA for an answer! The SBI could be wrong. You must investigate with the assistance of a qualified DNA expert.

Case Example: *State v. Francisco Laboy*

Let me share an example with you. I was appointed to assist Lisa Dubs as co-counsel in the Catawba County first degree murder case of Francisco Laboy. There was a horrible murder. Our client’s wife, who had just filed for divorce and custody of their child, was found dead from fifty-one stab wounds. It appeared that she had also been raped. The victim was white, the defendant Latino and the victim’s boyfriend black. (The racial mix was quite a problem, especially given the recent demonstrations against Latinos in downtown Hickory – “for taking all our jobs.”) The victim’s boyfriend, who

admitted that he had been with her the night before her murder, and had spoken on the phone with her at 11:30 p.m., had been to her house to check on her in the middle of the night but had not opened the door, and who slept in his car at a friend's house nearby, told the police to focus on our client. He claimed that Mr. Laboy was stalking her, making a lot of phone calls to her, harassing both him and her, and that his soon-to-be ex-wife was afraid of him. So the Sheriff's detectives took his advice.

Detectives went to Mr. Laboy's home and spoke with his adult daughter. She told the detectives that her father had gone fishing with his son – the son he shared with the deceased victim. Unfortunately, the daughter told the detectives that her father had gone out for a little while around midnight or so the night before. This could have been the time when Mrs. Laboy was killed. (Eventually, we found through court-compelled discovery that the Sheriff had documents to verify Laboy's alibi.)

The Sheriff's Department waited for Mr. Laboy to return from fishing with his son. They then surrounded him with guns drawn and took him to the station. Detectives never let Mr. Laboy out of their sight, even accompanying him to the bathroom and outside for a cigarette break. When officers told Mr. Laboy that his wife was murdered, he became upset and vomited in a trash can. Over the course of several hours, Mr. Laboy discussed his whereabouts over the previous weekend. He told them that he had indeed gone to a convenience store around midnight and that his truck had a flat tire, but that he drove home with the flat. In his broken English, he made a strange statement for the occasion, "Shit happens." Mr. Laboy demanded a lie detector test. A detective administered some type of voice stress analysis test, and told him that he failed. Then, the detective advised him of his Miranda rights and charged him with first degree murder. On the Miranda form, Mr. Laboy put a "?" instead of a signature.

Later that night, detectives spotted what appeared to be blood on the steering wheel and armrest of Mr. Laboy's Toyota truck. This was the truck with the flat tire. The SBI was called in. They took the steering wheel and armrest to the SBI Lab for testing. It was looking like a solid case for the prosecution.

The Capital Defender appointed Lisa Dubs of Hickory within twenty-four hours of Mr. Laboy being charged. Lisa spoke with Mr. Laboy and he told her that he was innocent. Lisa began filing and investigating.

The most important order that Lisa obtained – within a few days of the murder – was an order from a district court judge requiring the State and law enforcement to preserve all notes and evidence in the case, and not to destroy or use up all samples of physical evidence without notifying the court.

Seven months later, the SBI Laboratory reports that DNA from the victim was found on the armrest of Mr. Laboy's truck, in the same spot where blood was found (according to a presumptive test). Blood was also apparently found on the steering wheel (again, only according to a presumptive test). No DNA was found on the steering wheel. DNA testing on the rape kit showed that the DNA of the male fraction did not match

either Mr. Laboy or the victim's boyfriend. DNA testing on spots of blood on the bathroom wall did not match the victim, Mr. Laboy or the boyfriend.

Through discovery, we found out that the SBI Lab used up all the sample of the alleged blood on the armrest in conducting DNA testing. Of course, this violated the district court order requiring preservation. We arranged for the appointment of Dr. Randall Libby, a DNA expert from the medical school at the University of Washington. Dr. Libby guided us through the requests we made through discovery. The SBI refused to provide access to the raw data, to the SBI Lab and to proficiency testing and validation studies.

In an October 2004 hearing, Judge Beverly Beal ordered the SBI Laboratory to stop DNA and other testing so that an accounting could be made as to what had been done to date and where the evidence was located. The SBI appears to have continued DNA testing anyway. The SBI continued to block discovery. We filed motions to suppress the DNA evidence.

Testimony of Dr. Randell Libby at Laboy Suppression Hearing

The following is an excerpt from our Supreme Court Reply to the State's Petition for Cert in the Laboy case. I believe that the summary of Dr. Libby's testimony will show you why it is so important to have a qualified expert to explain the DNA testing and analysis process to the Court.

"Dr. Randell Libby testified that he is a neurogeneticist and is employed at the University of Washington in the School of Medicine in the division of medical genetics. (T p 579) Dr. Libby has testified as an expert in forensic DNA analysis in 18 to 20 states. He has testified at least 80 times and has worked on 200 or 300 forensic DNA cases in the last 15 years. (T pp 583-84) He has audited or monitored forensic DNA testing at least 35 to 40 times. (T p 584) Dr. Libby is "very familiar with all the procedures which are involved in DNA analysis." (T p 585)

Dr. Libby was hired by the defense in this case and he reviewed the SBI Laboratory documents provided through discovery in this case. (T pp 586-87) Dr. Libby is familiar with the type of "STR testing via polymerase chain reaction [PCR]" used by the SBI. (T p 587) He testified that the N. C. SBI used "a multiplex STR approach. It's a system from a company called Promega which uses PowerPlex 1.1 in which a variety of different genetic markers, DNA markers, are used simultaneous[ly]. The methodology which is employed is gel electrophoresis via use of the FMBIO system. And it is a color-based system which is then – subsequently the images are captured electronically and analyzed from that point on." (T p 587)

Dr. Libby testified that the "results" of the test do not come out as black-and-white X-Rays as the "autorads" from the old type of DNA testing called RFLP testing. (T pp 587-88) Rather, the original data for STR testing is in color: "If one had the actual electronic data, we would see that these are colored images but with different wheels,

different portions of the DNA and the different colors.” (T p 588) Dr. Libby was unable to properly analyze or review the SBI DNA testing in this case because, through discovery, only black and white copies of images that were originally in color. Dr. Libby explained that he “would need the raw data which is captured by computer. They’re electronically captured. We would need that data so that we can independently evaluate the allele which in this case are made by the State Bureau of Investigation relative to the STR testing which is conducted. So we need the electronic raw data provided in a format which is accessible to us.” (T p 588) Basically, Dr. Libby explained, after the DNA is lowered onto the gel and allowed to undergo the “procedure referred to as electrophoresis,” then the DNA markers migrate down the gel according to size. “Those pieces of DNA are captured via a laser which excites the molecules which are fluorescently labeled with DNA, and they are captured through the Starcross system, which is a portion of the FMBIO system which is used in the SBI’s laboratory.” (T p 589) That “raw data” is then stored in a computer or on a disk. “It can simply be copied and provided so that we can access it.” (T p 590)

Dr. Libby assisted the defense by indicating to the defense attorneys what information he needed from the SBI in order to analyze the SBI testing. (T pp 590-92) This information is set forth in Defendant’s Exhibit M-16, a copy of which is attached hereto, a letter dated November 25, 2003 from the defense attorney to the district attorney. In order to comply, all the SBI had to do was provide a CD-ROM with the electronic data. Dr. Libby also needed to see all SBI STR protocols and have copies of the manuals for the FMBIO software and scanner. (Exhibit M-16, attached hereto) Almost ninety percent of the information requested of the SBI could be provided on a CD-ROM. (T p 591) Dr. Libby would also need “first-generation copies of the slot blots in the other photographs.” (T p 591) Dr. Libby would also need access to the SBI laboratory in order to analyze microscopic slides, or those slides could be sent to his lab for review. (T p 591)

Dr. Libby testified that the SBI did not provide him (through discovery) with “any types of certification showing that any of the SBI agents were certified to conduct and analyze capillary electrophoresis DNA testing.” (T pp 592-93) This was the type of DNA analysis performed by the SBI on the vaginal swabs in 2004. He was also denied an on-site visit to the SBI laboratory “in order to examine the original data.” (T p 593)

Dr. Libby has not had difficulty obtaining the above-described information and access in the other 18 to 20 states where he has conducted forensic DNA reviews. (T pp 593-94)

Dr. Libby described problems with the documents provided to the defense during discovery:

- Black and white copies of “the quantitation slot blots” are not interpretable. (T pp 594-) As Dr. Libby described, it is like trying to analyze an x-ray from a Xerox copy. “In order to analyze you have to be provided with a similar film quality x-ray or a color copy of the original as generated by the crime lab. So if you were to look at the original, it would

certainly not look like this and certainly in this condition cannot be – cannot be analyzed. And this bears – this bears on the analysis which is being performed as to what was the actual quantity of DNA to start with to even determine it was in the correct range to even conduct the test.” (T p 596) For example, *see* Exhibits M-18 and M-19, and Dr. Libby’s discussion at T pp 595-97.

- Without the original images – or quality color copies -- a defense expert cannot give an opinion as to whether bands were properly disregarded by the SBI analyst. Gel images have been produced (for example, Exhibits M-20 and M-21, attached hereto) which are black and white, and “there appears to be what are other numerous bands with areas which are Xed out.” (T p 597) That is, the “X’s” were added onto the image by an SBI analyst. A forensic DNA expert, such as Dr. Libby, cannot analyze whether the SBI analyst was correct in marking out bands because “this does not represent the raw data.” (T p 597-98) “And without the raw data being provided, you can’t know what weight to put to those because of the image which is provided to us is so bad. But there are minor bands throughout here. Any one of these minor bands can, depending on the gene type or the overall pattern, can lead to an inclusion or an exclusion. So it’s vitally important that these be provided.” (T p 600) In this case, this is extremely important because the only physical evidence allegedly connecting Mr. Laboy to the crime is the purported drop of the victim’s blood on the armrest of his truck – that is, as Dr. Libby showed on Exhibits M-20 and 21, there are serious questions of interpretation which cannot be resolved with the discovery documents provided. (T pp 600-605)
- One document produced by the SBI Lab lists Mr. Laboy as a female, which shows “an error” and “sloppiness in the work.” (T pp 605-606, 628-29, 638-39) Exhibit M-23 (attached hereto) is an SBI lab worksheet that lists Mr. Laboy as a female. Dr. Libby said that this error “leads to the question of what are the other potential problems and errors associated with the testing.” (T p 606) Dr. Libby testified on cross-examination that this is “so egregious a mistake” that he would question the competence of those who did the testing. (T p 628) “It certainly shows sloppiness in the work.” (T p 629)
- The SBI Laboratory did not conduct further testing on samples from the armrest or steering wheel of Defendant’s truck in order to determine the presence of human blood. Although the State represented to the Court that the armrest and steering wheel had human blood on them, this is not correct. The only test conducted by the SBI on these items was a Phenolphthalein test. The “results” were “positive,” which means only that there could be human blood or animal blood, “or could not be blood at all.” (T pp 615-16) It is only a “presumptive” or “preliminary” test, “which means many things can react positively with this chemical. It does not necessarily mean it’s blood.” (T p 613) Further “species origin testing” was not conducted. (T p 614)

- There is no remaining DNA from the armrest or steering wheel from Defendant's truck for the defense to test. Dr. Libby actually examined the armrest from Mr. Laboy's truck as well as the tubes with the purported DNA extract. He examined the armrest and "there did not appear to be any stains whatsoever detectable visually on that armrest, so I did not see any indication of potential future testing of the samples on that item." (T p 611) The State represented that the SBI returned a vial with 10 microliters of fluid from the blood sample of the armrest. (T p 91) However, Dr. Libby determined that there was no liquid in the vials obtained from the armrest or steering wheel: "And it would now appear that those samples because of the inappropriate manner in which they were stored the samples have potentially evaporated and dried out. So it's even questionable if they could even be tested now. (T p 608) The samples should have been kept in a refrigerated or frozen environment for long-term storage. (T p 609)
- It is not possible to tell if there was contamination of the armrest DNA sample. Without an on-site visit to the SBI laboratory, access to the raw data and the right to examine accreditation and validation studies, Dr. Libby could not give an opinion as to whether there was contamination of the armrest DNA sample. This contamination could come from anyone handling the sample, contamination in the laboratory, or from "background DNA", which is DNA from cells of individuals who may have touched the "punitive stain." For example, if Mr. Laboy's wife or son touched the armrest of the Defendant's truck, then skin cells could have sloughed off, adhered to the armrest/or the stain, and have been detected in the DNA analysis. In this case, the situation is even more complicated because the DNA analyzed might have come from the victim's son "who would share some of the similar alleles in DNA." (T pp 620-21)
- The December 10, 2004 SBI DNA testing represents that the male fraction from the vaginal swab came from the female victim, which shows "an error" or "sloppiness." Exhibit M-25 (attached hereto), an SBI report dated 12-10-04, which was provided to the defense during the December 17, 2004 hearing, indicates that "the DNA profile obtained from the male fraction of the vaginal swab, item 13-4, matched the DNA profile obtained from the bloodstain of the victim, Kimberly Laboy" but did not match the suspects Laboy and Lewis. (T p 641) Dr. Libby testified that this "is either an error or it's just sloppiness in terms of carryover in the female fraction and the male fraction." (T p 642) No further documentation, such as notes or worksheets, was provided by the SBI in order to explain the discrepancy. Even discovery provided by the SBI after the December 17, 2004 hearing – as ordered by the trial court – did not explain this major discrepancy. That is, even after Judge Beale made this finding about the discrepancy, the SBI has not submitted any explanation, by way of bench notes, working papers or affidavit."

Laboy Court Orders & Dismissal

In hearings in October of 2004, Judge Beverly Beal ruled that the Defendant's statements should be suppressed because the Sheriff violated Mr. Laboy's Miranda rights. In a hearing in December of 2004, Judge Beal suppressed all of the SBI DNA testing because of the State's violation of court orders and failure to provide discovery. The State petitioned the North Carolina Supreme Court for certiorari, but the Court denied review on October 6, 2005. Finally, on August 25, 2006, the State took a voluntary dismissal.

Other Nightmare Cases

The Laboy case and the Leslie Lincoln are not alone. There are many other nightmare crime laboratory stories. See J. Herbie DiFonzo, "The Crimes of Crime Labs," 34 Hofstra L. Rev. 1 (2005). See also the following from the Chicago Tribune: "Under the Microscope," 10/17/04, www.chicagotribune.com/news/specials; and The Winston-Salem Journal: Special Report (August 2005): "Crime and Science: the Weight of Evidence." www.journalnow.com

