

THE STATE OF TEXAS	§	IN THE 248 TH DISTRICT COURT
	§	
V.	§	IN AND FOR
	§	
CHARLES DOUGLAS RABY	§	HARRIS COUNTY, TEXAS

AFFIDAVIT OF ELIZABETH JOHNSON, Ph.D.

My name is Elizabeth Johnson. I am a resident of Ventura County, California. I am over the age of eighteen and I am competent to make this affidavit. All the facts stated here are within my personal knowledge, or have been made known to me and are of a type reasonably relied upon by experts in my field.

1. I am a Senior Forensic Scientist with Technical Associates, Inc. ("TAI"), in Ventura California. Since 1980, TAI has provided a complete range of criminalistics services, including DNA analysis, serological analysis, and general crime scene analysis.

2. I obtained a Ph.D. from the Department of Microbiology and Immunology of the Medical University of South Carolina in 1987. I continued my education with postdoctoral studies at that institution from September 1987 through September 1988, and then with the M.D. Anderson Cancer Research Hospital, in Houston, Texas, from October 1988 through November 1991.

3. Following my postdoctoral studies, from November 1991 through December 1996, I worked in the DNA Laboratory at the Joseph A. Jachimczyk Forensic Center in the Office of the Harris County Medical Examiner. During that time, I was technical director of the DNA laboratory and attained the title "Director of the DNA Laboratory." I also assumed supervision of the serology laboratory for a period of time.

4. Since February 1997, I have worked as a Senior Forensic Scientist with TAI. My duties at TAI and at the Jachimczyk Forensic Center have included evidence examination, body fluid identification and various serology testing, and DNA analysis. I am qualified by education and experience to offer expert opinions on these subjects.

5. In connection with the above-captioned criminal matter, I have reviewed the homicide report, the medical examiner's report, the lab report, and crime scene and autopsy photos. I also have received descriptions from Mr. Raby's attorneys of physical evidence that has been maintained in the case.

6. It is my professional opinion that DNA testing of four kinds of physical evidence would be highly probative of the identity of the decedent's attacker in this case. It is my understanding that the statutory right to DNA testing in Texas depends on a showing that exculpatory results from DNA testing would prove a petitioner's innocence. While DNA testing of these four kinds of evidence could produce inconclusive results, such DNA testing could also produce results sufficiently exculpatory to prove Mr. Raby's innocence.

7. First, there is a possibility that blood or skin under fingernail clippings taken from the decedent contains DNA of her attacker. The deposition of blood or skin under the decedent's fingernails would be more likely if the decedent struggled with her attacker. In addition, I understand that the decedent died from knife wounds. It is common in cases of direct assault with a knife that there will be a struggle in which biological material from the attacker can be transferred to the fingernails of the victim. Finding tissue under the fingernails of the decedent may provide probative evidence as to the identity of the attacker.

8. HPD crime lab's blood typing results suggest that the fingernails may hold blood other than Mr. Raby's or the decedent's. The decedent's blood type was B, while Mr. Raby's is type O, which means that his blood lacks both A and B blood group substances. Two samples were taken from the decedent's fingernails, each representing one hand: one showed consistent results of blood type AB, while the other revealed B type activity. These results could indicate the presence of blood group substance A on the nails, which is foreign both to the decedent and to Mr. Raby.

9. In light of the evidence that the decedent was an elderly woman who had little intimate contact with other people, the likelihood that discernible tissue of another person would become lodged underneath her fingernails by innocent means is limited. If found, large clumps of skin under the nails would indicate considerably more contact than could be explained by the transfer of DNA by an innocent handshake or common use of a towel. If such clumps of tissue are found, DNA tests on these clumps would be highly probative of the decedent's attacker. Similarly, if DNA tests reveal the same person's DNA under two or more nails, especially from different hands, and that DNA is not the decedent's or Mr. Raby's, then regardless of whether the DNA derives from skin cells or blood cells, it could indicate that someone other than Mr. Raby attacked the decedent.

10. Second, there is a possibility that a hair found in the decedent's right hand is the hair of her attacker. At trial, an HPD crime lab employee testified that the hair likely belonged to the decedent's grandson. The hair was identified through "microscopic hair analysis;" in other words, a scientist closely examined the hair through a microscope for similarities to other hair samples. Microscopic hair analysis is a scientifically unreliable basis for hair identification.

11. The appropriate DNA testing technique for the hair found in the decedent's right hand is nuclear DNA testing by PCR methods if there is an intact root present, or mitochondrial testing by PCR methods of the hair shaft if no root exists. While nuclear DNA testing by PCR methods became available within the Harris County laboratories in the first half of 1994, mitochondrial testing was not available for any nonmilitary purpose in 1994. If the hair contains the DNA of a person other than the decedent, her grandson, or Mr. Raby, that would be probative evidence that someone other than Mr. Raby may have attacked the decedent. If the DNA results from testing this hair match DNA results from any of the other evidence sought to be tested, then these results would together constitute highly probative evidence of the identity of the attacker.

12. Third, the blue panties found near the body at the crime scene could yield probative evidence as to the identity of the victim's attacker. The homicide report described these, saying

that they "appeared to have blood smeared on them." Evidence at the crime scene indicates that the attacker did wipe his hands before leaving the house, because no blood stains were found on any doorknobs or windows. If the attacker himself were cut, and if he used the panties to wipe his hands after the attack, then some of the blood on the panties could be the attacker's. DNA testing can detect DNA of multiple individuals that has been mixed and can be very definitive in eliminating someone as a donor, even in a mixed sample. If blood other than Ms. Franklin's is found on the panties, that could indicate the identity of the attacker. Such evidence would be even more probative if the DNA from the panties matched DNA found under one of Ms. Franklin's nails or from the hair in her fist.

13. Lastly, there is a substantial possibility that blood on the decedent's nightshirt contains blood of the attacker as well as blood of the decedent. Given the possibility that a person stabbing may cut himself during the attack, it is possible to find the attacker's blood as well as the decedent's blood on clothing in stabbing cases. Stains that are not obviously associated with the stab wound could indicate the presence of the attacker's blood. If the DNA of a person other than the decedent and Mr. Raby is found in a bloodstain on the decedent's clothing, that could indicate that someone other than Mr. Raby stabbed the decedent.

14. If the DNA of a person other than Mr. Raby or the decedent were found in more than one of the victim's clothing, the fingernail clippings, the hair, or the panties, the probative value of that evidence would increase substantially. That would be extremely indicative that it was someone other than Mr. Raby who attacked the decedent.

15. Only the RFLP method of DNA testing was available within the law enforcement laboratories in Harris County in 1992, but that test requires a very large sample in order to obtain a conclusive result and is often not a feasible test for this reason. It is likely that RFLP testing of the panties, fingernail clippings, and nightshirt was not capable of producing probative results because of the size of the samples. PCR testing became available in the first half of 1994 in the Harris County labs, but I do not know whether DNA testing of any kind was actually available to an indigent defendant in Harris County. While I was employed there, the Harris County Medical Examiner's Office, along with the HPD lab, performed the majority of DNA testing for criminal cases brought in Harris County. During my tenure there at that office, from 1991 to 1996, I cannot recall a single instance in which biological evidence was sent for DNA testing by a defendant at the expense of the State or the court. Conversely, I can recall several instances in which defendants with privately retained attorneys paid for such testing in the mid-1990s at their own expense.

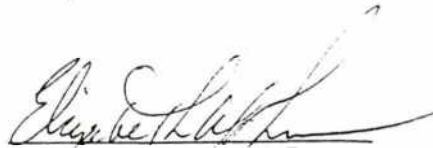
16. It is my professional opinion that Mr. Raby's trial counsel should have, at the very least, further investigated the appropriateness of DNA testing with an expert in the field to determine what DNA testing should have been performed.

17. Based on my understanding of the condition of the hair, fingernail clippings, and panties as described to me by Mr. Raby's counsel, it is my professional opinion that the evidence is in a condition making DNA testing possible. Furthermore, it is my professional opinion that the evidence is in a condition such that DNA testing will likely yield determinate results. It is impossible to be certain that evidence is in a condition such that DNA testing will yield


determinate results without performing DNA tests.

18. I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 7th day of November, 2002.


Elizabeth Johnson, Ph.D.

Subscribed and sworn to before me, the undersigned authority, under oath duly administered, on this 7th day of NOVEMBER, 2002.


Notary Public in and for the State of California
My commission expires: NOVEMBER 20, 2005

