
CHAPTER 2

Forensic Evidence and Labs

Hank Skinner was convicted in 1995 of murdering his longtime girlfriend, Twila Busby, and her two grown sons on New Year's Eve in 1993. Skinner has maintained his innocence, saying that he was passed out on alcohol and drugs that night and awoke to find the family, who lived with him, murdered.

DNA testing in November 2012 identified his DNA profile in blood found in multiple places in the house. The testing also found the DNA profile of an unknown male on a knife believed to be used in the crime and on the carpet in the bedroom that the sons shared. A new round of testing conducted in 2013 on a series of hairs, found clutched in Busby's hand, revealed that one hair belongs to Skinner and that at least two hairs belong to someone related to Busby, but not her or her sons. That evidence is consistent with the defense's theory that Busby's uncle may have committed the crime. A key piece of evidence in the crime, a windbreaker stained with blood that was found at the crime scene, was connected to the uncle, who was known to be violent and had previously assaulted Busby. Following a 2012 order by the Texas Court of Criminal Appeals requiring testing of remaining evidence, it came to light that the windbreaker had been lost by law enforcement – the windbreaker has never been tested.

Recommendation 5. The government should preserve all evidence for at least 60 days after an execution. Evidence should not be destroyed until effective notice has been provided to defense counsel.

Forensic testing technology has undergone rapid change and refinement in recent years, which has increased both its capability to obtain meaningful results from old evidence samples and its ability to differentiate between possible subjects. Though only five to ten percent of criminal cases involve DNA evidence,¹ the probative value of DNA testing, where available, has been steadily increasing as technological advances and growing databanks amplify the ability to identify perpetrators and eliminate suspects. A 1995 survey of forensic laboratories reported that DNA testing excluded suspects in about one-fifth to one-fourth of cases for which evidence that can be tested for DNA is available.² There have been 312 post-conviction DNA exonerations in the United States as of March 2014, including at least 18 people who were sentenced to death before DNA testing proved their innocence and led to their release, and another 16 people who were charged with capital crimes but not sentenced to death.³ The growing number of convictions that have been vacated because of DNA results has weakened the strong presumption that jury verdicts are correct.

The substantial advances in DNA testing technology make it possible to obtain conclusive results in cases in which previous testing either was not performed or was inconclusive. This has resulted in successful post-conviction exonerations and identification of actual perpetrators in a number of cases.

Unfortunately, post-conviction DNA testing is often impossible because the evidence has been lost, destroyed or contaminated due to improper storage.

Most death penalty states and the federal government now require preservation of forensic evidence, but Alabama, Delaware, Idaho, Indiana, Kansas, Pennsylvania, South Dakota, Tennessee, Utah, Washington, and Wyoming do not.⁴ Many states with

Unfortunately, post-conviction DNA testing is often impossible because the evidence has been lost, destroyed or contaminated due to improper storage.

¹ See Innocence Project, Unreliable or Improper Forensic Science, <http://www.innocenceproject.org/understand/Unreliable-Limited-Science.php>.

² See NAT'L INST. OF JUSTICE, CONVICTED BY JURIES, EXONERATED BY SCIENCE: CASE STUDIES IN THE USE OF DNA EVIDENCE TO ESTABLISH INNOCENCE AFTER TRIAL (1996), at <https://www.ncjrs.gov/pdffiles/dnaevid.pdf>.

³ The Innocence Project, DNA Exonerations Nationwide, http://www.innocenceproject.org/Content/DNA_Exonerations_Nationwide.php.

⁴ See THE NATIONAL CENTER FOR VICTIMS OF CRIME, EVIDENCE RETENTION LAWS: A STATE-BY-STATE

preservation requirements prescribe the period for required retention based on time, the type of crime committed, or both. Other states require only the retention of evidence obtained on or after the effective date of the applicable retention statutes, thus permitting states to destroy old evidence. Some states only mandate the preservation of evidence upon petition for retesting of evidence. The result is the destruction of large quantities of evidence in the period between conviction and a defendant's filing of a petition for post-conviction testing or retesting of physical evidence.

Physical evidence should not be destroyed until the government provides effective notice to counsel. Given the importance of DNA in exonerating the innocent and convicting the guilty, there is no compelling reason to destroy or dispose of evidence that could possibly be tested for DNA, prior to the conclusion of a capital case. If retention of a particular piece of physical evidence containing DNA evidence is impractical, reasonable care should be taken to retain representative samples of those portions of the evidence that contain DNA.

To prevent the premature destruction or disposal of physical evidence that could be subject to forensic testing or retesting, the Committee recommends that the government preserve all physical evidence until no less than 60 days after an execution.

Recommendation 6. Defendants should be entitled by statute to testing of forensic evidence if the results may be relevant to a claim of innocence or wrongful conviction.

Even in cases where evidence has been properly preserved, there is often no guarantee that a defendant will have the opportunity to test it. Frequently, prosecutors vigorously oppose giving defendants access to evidence for DNA testing, even where such evidence apparently came from the true perpetrator. In *District Attorney's Office v. Osborne*,⁵ the Supreme Court held that the due process clause does not require states to turn over DNA evidence to individuals convicted of crimes.

Although all jurisdictions allow testing under some circumstances,⁶ the statutory standards are confusing and burdensome and can result in years of litigation. Some statutes impose barriers to testing that are insurmountable for most prisoners, such as restrictions against inmates who pleaded guilty or whose lawyers failed to request DNA testing at the time of trial. In Texas, for example, Hank Skinner vigorously litigated his request for DNA testing for twelve years

COMPARISON (Aug. 21, 2013), at <http://victimsofcrime.org/docs/default-source/dna-resource-center-documents/evidence-retention-check-chart-9-5.pdf?sfvrsn=2>. Non-death penalty states without evidence retention statutes include New Jersey, New York, North Dakota, Vermont, and West Virginia. *Id.*

⁵ 557 U.S. 52 (2009).

⁶ For example, Kentucky courts have the inherent power to grant DNA testing if it might “correct a manifest injustice.” *Garr Keith Hardin and Jeffrey DeWayne Clark*, No. 2011-SC-000722 (Ky. Apr. 25, 2013).

before the state finally consented to test any evidence it had not lost or destroyed in the course of the litigation.

To prevent prolonged litigation and the risk that potentially exculpatory forensic evidence would go unexamined or untested, despite the fact that it could prevent a wrongful execution, the Committee believes that jurisdictions should adopt statutes that provide clear standards giving convicted defendants access to evidence, and the right to test or retest, if such evidence may be relevant to a claim of innocence or wrongful conviction.

Hank Skinner vigorously litigated his request for DNA testing for twelve years before the state finally consented to test any evidence it had not lost or destroyed in the course of the litigation.

Recommendation 7. Law enforcement agencies should submit to DNA databanks (a) unidentified profiles obtained from evidence in a capital case and (b) DNA profiles of all convicted felons. Defendants should have access to databank searches.

Jurisdictions should adopt legislation that requires law enforcement agencies to submit to state and federal DNA databanks unidentified DNA profiles collected as evidence in capital cases. Law enforcement agencies should also be required to submit unidentified DNA profiles from cases for which another defendant was convicted if it reasonably appears to be related to any pending capital case. If law enforcement agencies fail to submit to a state or federal DNA databank any such DNA profiles, the defendant should have the right to petition a court for the submission and the court should have the authority to issue an order requiring the state to submit such profiles to the DNA databanks for comparison purposes. Jurisdictions should also collect and submit to DNA databanks the DNA profiles of all convicted felons. These practices would help police and prosecutors solve cold cases, as well as give death row inmates an important opportunity to establish their innocence or claim of wrongful conviction.

Recommendation 8. Testimony from a forensic examiner in capital cases should be excluded from evidence when the examiner is not associated with an accredited forensic laboratory.

Expert testimony plays an enormous role in the trial of criminal cases. As the introduction of physical evidence becomes more prevalent – and juries come to expect “foolproof” test results as a matter of course – concerns have grown over the reliability of both the science and the technicians that provide “expert testimony” in capital cases.

Growing concerns about “junk science” and its potential impact on the fact finder led the U.S. Supreme Court, in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,⁷ to require that all scientific theories and techniques be shown to be “relevant” and “reliable” before they can be admitted into evidence through expert testimony. The Court further clarified that *all* expert testimony, scientific or not, novel or not, must be subjected to “exacting standards of reliability” under *Daubert*.⁸ The need for such scrutiny has been recognized because of the widespread awareness that in a significant number of cases, questionable or improper forensic science has contributed to wrongful convictions.

The Innocence Project has reported that more than 50 percent of the first 225 wrongful convictions overturned by DNA testing involved “unvalidated or improper” forensic science.⁹ According to the Innocence Project, forensic disciplines or techniques are “unvalidated or improper” if they:

1. have not been tested to establish their validity and reliability;
2. result in testimony about forensic evidence that presents inaccurate statistics, gives statements of probability or frequency in the absence of valid empirical data, interprets non-probative evidence as inculpatory, or concludes/suggests that evidence is uniquely connected to the defendant without empirical data to support such testimony; or
3. result from misconduct, either by fabricating inculpatory data or failing to disclose exculpatory data.¹⁰

Even where scientific methods and techniques are proven reliable, those techniques might not be properly applied to the facts of a particular case because standard lab procedures are inadequate, lab technicians fail to properly follow established procedures, or, in extreme cases, lab technicians or other personnel commit outright fraud. Although intentional fraud is rare, the integrity of forensic crime labs has been called into question in highly publicized cases, including that of Fred Zain, a West Virginia state police laboratory employee whose falsified testimony put the convictions of more than 100 people into question.¹¹ Challenges have also been raised by defendants on death row who were convicted, at least in part, based on the

⁷ 509 U.S. 579 (1993).

⁸ *Weisgram v. Marley Co.*, 528 U.S. 440, 455 (2000).

⁹ THE INNOCENCE PROJECT, WRONGFUL CONVICTIONS INVOLVING UNVALIDATED OR IMPROPER FORENSIC SCIENCE THAT WERE LATER OVERTURNED THROUGH DNA TESTING 1 (Feb. 1, 2009) at http://www.innocenceproject.org/docs/DNA_Exonerations_Forensic_Science.pdf.

¹⁰ *Id.*

¹¹ Francis X. Clines, *Work by Expert Witness Is Now on Trial*, N.Y. TIMES, Sept. 5, 2001, at <http://www.nytimes.com/2001/09/05/us/work-by-expert-witness-is-now-on-trial.html>.

testimony of former Mississippi forensic pathologist Dr. Stephen Hayne, after other murder convictions based on his testimony were overturned.¹² In Texas, Dr. Ralph Erdmann was convicted of seven felony counts of falsifying autopsy results and was forced to surrender his medical license as a result.¹³

Further, defendants have been convicted on the basis of “junk science” techniques that courts considered valid at the time of trial, but are now recognized as unreliable. Junk science claims have been raised in the case of Cameron Todd Willingham, who was executed in 2004 for setting the fire that killed his three daughters, after some experts have said that the scientific evidence of arson offered against Willingham was bogus.¹⁴ In September 2013, a Texas habeas corpus statute took effect that permits prisoners to seek release and a new trial if junk science played a pivotal role in their convictions.¹⁵

...defendants have been convicted on the basis of “junk science” techniques that courts considered valid at the time of trial, but are now recognized as unreliable.

A scandal that came to light in 2003 involving the Houston Police Department laboratory highlights another danger – namely the lack of proper education and training of forensic examiners. In the Houston case, several DNA experts came forward accusing the DNA/Serology Unit of the Houston Police Department Crime Laboratory of performing grossly incompetent work and presenting findings in a misleading manner designed to unfairly help prosecutors obtain convictions. An audit by the Texas Department of Public Safety confirmed serious inadequacies in the laboratory’s procedures, including “routine failure to run essential scientific controls, failure to take adequate measures to prevent contamination of samples, failure to adequately document work performed and results obtained and routine failure to follow correct procedures for computing statistical frequencies.”¹⁶

¹² Campbell Robertson, *Mississippi Autopsies By Doctor In Question*, N.Y. TIMES, Jan. 7, 2013, at A11.

¹³ Roberto Suro, *Ripples of a Pathologist’s Misconduct In Graves and Courts of West Texas*, N.Y. TIMES, Nov. 22, 1992, at <http://www.nytimes.com/1992/11/22/us/ripples-of-a-pathologist-s-misconduct-in-graves-and-courts-of-west-texas.html>.

¹⁴ See Paul C. Giannelli, *Junk Science and the Execution of an Innocent Man*, 7 N.Y.U. J L. & LIBERTY 22 (2013).

¹⁵ S.B. 344, 2013 Leg., 83rd Sess. (Tex. 2013) (enacted).

¹⁶ U.S. FED. BUREAU OF INVESTIGATION, QUALITY ASSURANCE AUDIT FOR FORENSIC DNA AND CONVICTED OFFENDER DNA DATABASING LABORATORIES: AN AUDIT OF HOUSTON POLICE DEPARTMENT CRIME LABORATORY – DNA/SEROLOGY SECTION FOR DECEMBER 12-13, 2002 (2003), at www.scientific.org/archive/Audit%20Document--Houston.pdf; see also MICHAEL R. BROMWICH, FINAL REPORT OF THE INDEPENDENT INVESTIGATOR FOR THE HOUSTON POLICE DEPARTMENT CRIME LABORATORY AND PROPERTY ROOM (2007), at <http://www.hpdlabinvestigation.org/reports/070613report.pdf>.

Similarly, in August 2012, Annie Dookhan, a chemist at the Massachusetts State Police crime lab, was accused of improperly handling drug evidence and breaching procedures. She was ultimately charged with 27 counts of obstruction of justice and perjury. Co-workers had shared with supervisors suspicions about Dookhan, who allegedly mishandled 50,000 drug samples in 34,000 cases. Lack of oversight resulted in a failure to identify any problems for nearly nine years (even though Dookhan would frequently process more than 500 samples per month while the average analyst would process only between 50 and 150 samples). The ACLU has estimated that additional costs to Massachusetts taxpayers to pay for prosecutors, public defenders and courts to review the 34,000 cases worked on by Dookhan could total nearly \$100 million.¹⁷

To address these many concerns, the Committee recommends that testimony from a forensic examiner offered in capital cases should be excluded from evidence when the examiner is not associated with an accredited forensic laboratory.

Recommendation 9. Congress should establish federal standards and procedures for accrediting forensic laboratories. States should either apply the federal standards or adopt their own, more stringent standards. Accredited laboratories should be required to:

- a) employ certified technician,
- b) use validated techniques,
- c) articulate and enforce written standard protocols,
- d) require examiner proficiency testing in the particular technique in question, and
- e) have in place a procedure for triggering an audit of all death penalty cases when there is reason to question the validity of the original analysis, including, without limitation, when there is reason to believe that the examiner has engaged in negligence or fraud in any case (whether capital or not).

In November 2005, Congress directed the National Academy of Sciences (“NAS”) to conduct a study and issue a report, *inter alia*, assessing the present and future needs of the forensic science community in the United States, and making recommendations for maximizing the use of forensic technologies and techniques to solve crimes, investigate deaths and protect the

¹⁷ See Brian Ballou et al., *Former Colleague Testifies Annie Dookhan Had Access to State Lab, Drug Database*, BOS. GLOBE, Oct. 11, 2012, at <http://www.boston.com/metrodesk/2012/10/11/state-chemist-testifies-annie-dookhan-did-not-test-drugs-shawn-drumgold-drug-case/39MJCXnIpNBRXgGdsdUwRI/story.html>.

public. The NAS Report stated that what most surprised the committee responsible for the report was the consistency of the message it received:

The forensic science system, encompassing both research and practice, has serious problems that can only be addressed by a national commitment to overhaul the current structure that supports the forensic science community in this country. This can only be done with effective leadership at the highest levels of both federal and state governments, pursuant to national standards, and with a significant infusion of federal funds.¹⁸

Forensic science facilities often have inadequate educational programs and they typically lack mandatory and enforceable standards founded on rigorous research and testing, certification requirements and accreditation programs. Laboratories also are under-resourced and understaffed, resulting in huge backlogs that may contribute to errors. Backlogs may discourage law enforcement personnel and organizations from submitting evidence and laboratories may restrict submissions of evidence in order to reduce backlogs.¹⁹ The failure to test, or even submit for testing, pieces of evidence could result in the wrong person being convicted or the failure to exonerate those who may already have been arrested but are awaiting trial.

Forensic science facilities often have inadequate educational programs and they typically lack mandatory and enforceable standards founded on rigorous research and testing, certification requirements and accreditation programs.

Moreover, backlogs are exacerbated by increased requests for expedited laboratory results. Laboratories are thus challenged to balance requests for “older” and “cold” cases with new cases, resulting in the risk that exculpatory evidence might not come to light or might be significantly delayed. The need to retest evidence in older or cold cases is underscored by findings like those of Urban Institute researchers, who discovered that new advances in testing appeared to exculpate convicted defendants in 5% of Virginia criminal convictions between 1973 and 1987 in which evidence was available for retesting.²⁰

¹⁸ NAT’L RESEARCH COUNCIL, NAT’L ACADEMY OF SCIENCES, STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD (Aug. 2009), at <https://www.ncjrs.gov/pdffiles1/nij/grants/228091.pdf> (“NAS REPORT”).

¹⁹ *See id.* at 37.

²⁰ JOHN ROMAN ET AL., POST-CONVICTION DNA TESTING AND WRONGFUL CONVICTION (June 2012), at <http://www.urban.org/UploadedPDF/412589-Post-Conviction-DNA-Testing-and-Wrongful-Conviction.pdf>.

Forensic sciences also are hindered by extreme Balkanization, which is marked by multiple types of practitioners with different levels of education and training and different professional cultures and standards for performance. The reliance on apprentice-type training and a guild-like structure of disciplines further works against the goal of a single forensic science profession. Because of a lack of clear standards and procedures, between 2002 and 2012, approximately 30 federal, state, and local crime labs, including those serving the FBI, the U.S. Army, and eight of the nation’s 20 largest cities, were reported to have experienced failures that resulted in inaccurate results.²¹

Despite increasing awareness of problems in forensic laboratories, effective implementation of reform is difficult.

Despite increasing awareness of problems in forensic laboratories, effective implementation of reform is difficult. Currently, no federal standards exist regarding the accreditation of forensic laboratories. In February 2013, the U.S. Department of Justice and the National Institute of Standards and Technology announced the formation of the National

Commission on Forensic Science to develop guidance on practices for federal, state and local forensic science laboratories. The procedures and standards offered in this guidance would be voluntary. Legislation has also been proposed in the U.S. Senate which would “establish an ‘Office of Forensic Science’ and a ‘Forensic Science Board’ to strengthen and promote confidence in the criminal justice system by ensuring consistency and scientific validity in forensic testing.”²² The Senate bill requires the Forensic Science Board to recommend standards for the accreditation of forensic science laboratories and although accreditation is not required by the bill, unaccredited labs may not receive, directly or indirectly, any federal funds, nor may any federal agency use any unaccredited lab during the course of a criminal investigation or criminal court proceeding.²³

Only four states (Missouri, New York, Oklahoma, and Texas) require accreditation of their crime laboratories.²⁴ Voluntary accreditation is in place in some jurisdictions. In North Carolina, a 2010 audit found that State Bureau of Investigation (“SBI”) agents withheld or

²¹ Spencer S. Hsu, *Forensic techniques are subject to human bias, lack standards, panel found*, WASH. POST, April 17, 2012, at http://www.washingtonpost.com/local/crime/forensic-techniques-are-subject-to-human-bias-lack-standards-panel-found/2012/04/17/gIQADCoMPT_story.html.

²² *Criminal Justice and Forensic Science Reform Act of 2011*, S.2177, 113th Cong. (2nd Sess. 2014).

²³ *See id.* §§ 201-202.

²⁴ MO. REV. STAT. § 650.060 (2010); N.Y. EXEC. § 995 (1994); OKLA. STAT. § 74-150.37 (2003); TEX. GOV’T CODE ANN. § 411.0205 (2003).

distorted forensic evidence in 230 cases, including three cases that resulted in executions.²⁵ In response, the SBI “vowed that the agency’s forensic crime laboratory would employ only the best qualified technicians who would be nationally certified in their specialty.”²⁶ Nearly two years later, a scandal erupted when it was found that 25 of the SBI’s technicians failed their certification exams, a fact that the SBI kept secret.²⁷ The SBI pointed out that, in the absence of a national certification in various disciplines, certification exams included questions from multiple, sometimes unrelated disciplines, contributing to the high failure rate.²⁸

Private accreditation bodies, including the American Society of Crime Lab Directors/ Laboratory Accreditation Board (“ASCLD/LAB”) and Forensic Quality Services, do not share identical standards and are themselves subject to criticism in terms of the effectiveness of their laboratory oversight.²⁹ Appearances of impropriety may be common in situations where the lab seeking accreditation is also the customer paying for the accreditation inspection.³⁰

The importance of reliability, particularly in death penalty cases, calls for comprehensive national standards. This imperative is made even more compelling by interpretations of the Sixth Amendment that can deny a criminal defendant the ability to cross-examine the scientist who conducted the forensic testing regarding the protocols used or even the technician’s qualifications. In *Williams v. Illinois*,³¹ the U.S. Supreme Court held that a criminal defendant had no right to cross-examine the laboratory technician who performed certain forensic tests because

The importance of reliability, particularly in death penalty cases, calls for comprehensive national standards.

²⁵ Radley Balko, *North Carolina’s Corrupted Crime Lab*, REASON, Aug. 23, 2010, <http://reason.com/archives/2010/08/23/north-carolinas-corrupted-crim>.

²⁶ Mandy Locke & Joseph Neff, *SBI fights district attorneys’ attempts to learn about failed tests*, RALEIGH NEWS & OBSERVER, June 14, 2012, at <http://www.newsobserver.com/2012/06/14/2137375/sbi-fights-district-attorneys.html>.

²⁷ *Id.*

²⁸ *Id.*

²⁹ See generally Memorandum from Marvin E. Schechter to The New York State Commission of Forensic Science (March 25, 2011), at <http://www.newenglandinnocence.org/wp-content/uploads/2011/07/ASCLD-Lab-and-Forensic-Laboratory-Accreditation.pdf>; see also Justin Peters, *Crime Labs Botch Tests All the Time. Who’s Supposed To Make Sure They Don’t Screw Up?*, SLATE, Jan. 17, 2013, http://www.slate.com/blogs/crime/2013/01/17/crime_lab_scandal_crime_labs_botch_tests_all_the_time_who_s_supposed_to.html.

³⁰ *Id.*

³¹ 132 S. Ct. 2221 (2012).

a *separate*, state-employed scientist who had not participated in the testing testified to the actual meaning of the forensic test results. The Court thus held that the defendant had no right to cross-examine the forensic laboratory technician who performed the test regarding the parameters of the test, the process by which the test took place or even the technician's qualifications. This decision makes it all the more important for forensic testing to be conducted in accredited labs using accurate and reliable methodologies.

Recommendation 10. Forensic evidence should be tested by accredited laboratories (private or public) that function independently from law enforcement.

The need for accredited forensic laboratories to function independently from law enforcement stems from the fact that practitioners in some forensic disciplines rely on human interpretation that could be tainted by bias.³² Law enforcement agencies, such as police departments or prosecutors' offices, administer the majority of forensic science laboratories. Consequently, lab technicians and their supervisors ultimately report to the head of the agencies responsible for investigating, solving and prosecuting crimes.³³

This system leads to significant concerns related to the independence of the laboratory and its budget. Forensic scientists who serve in labs overseen by law enforcement agencies or prosecutors' offices, or who are hired by those units, are subject to a general risk of bias. Bias also is introduced through decisions made about evidence collection. Initial research has shown that bias can affect the accuracy and results of forensic testing, but so subtly that the scientist is unaware that his or her judgment is being affected.³⁴ In some instances, laboratory personnel may feel compelled to produce results favorable to the prosecution. For example, a medical examiner in Texas reported that law enforcement had attempted to interfere with the office's death investigations.³⁵ Thus, operational, organizational and financial independence on the part of forensic laboratories will help maximize the accuracy of forensic testing and minimize the risks of wrongful convictions.

³² See NAS REPORT, *supra* note 18, at 30.

³³ See *id.* at 183.

³⁴ See, e.g., Dan E. Krane et al., *Sequential Unmasking: A Means of Minimizing Observer Effects in Forensic DNA Interpretation*, 53 J. FORENSIC SCI. 1006 (2008); Itiel E. Dror & D. Charlton, *Why Experts Make Errors*, J. FORENSIC IDENTIFICATION 56 (4) 600-616 (2006); Itiel E. Dror et al., *Contextual Information Renders Experts Vulnerable to Making Erroneous Identifications*, 156 FORENSIC SCI. INT'L 78 (2006); Larry S. Miller, *Procedural Bias in Forensic Science Examinations of Human Hairs*, 11 LAW & HUM. BEHAV. 157 (1987).

³⁵ AMERICAN BAR ASSOCIATION, EVALUATING FAIRNESS AND ACCURACY IN STATE DEATH PENALTY SYSTEMS: THE TEXAS CAPITAL PUNISHMENT ASSESSMENT REPORT 91 (Sept. 2013), at http://www.americanbar.org/content/dam/aba/administrative/death_penalty_moratorium/tx_complete_report.authcheckdam.pdf.