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THE CRIMES OF CRIME LABS

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*If you put God on the witness stand . . . and God's testimony conflicted with the DNA evidence, everyone would automatically say, "Why is God lying like this?"*¹

I. INTRODUCTION

In November 2005, a man was convicted in New York City for a thirty-two-year-old rape. The circumstances were quite unusual, even for cold cases. The original 1974 trial had ended in a hung jury, and the defendant had jumped bail before his scheduled re-trial. He was apprehended in 2004 in Georgia on another charge, and a background check disclosed the open New York warrant. The crucial difference between the 1974 and 2005 trials was DNA evidence recovered from the underpants which the victim wore on the day of the crime, "found stuffed in the files in the Manhattan district attorney's cold case unit."²

* Professor of Law, Hofstra University School of Law. This essay extends ideas I first expressed in an earlier article, *In Praise of Statutes of Limitations in Sex Offense Cases*, 41 HOUS. L. REV. 1205 (2004), and elaborated in my Hofstra University Distinguished Faculty Lecture, "The Surprising Unreliability of DNA Evidence: A Tale of Bad Labs and Good Statutes of Limitations," delivered October 19, 2005. Many thanks to my research assistant, Stephanie Restifo.

1. Laura LaFay, *Reasonable Doubt*, STYLE WEEKLY, July 6, 2005, available at <http://www.styleweekly.com/article.asp?idarticle=10614> (quoting defense attorney David Baugh).

2. See Julia Preston, *After 3 Decades, Guilty Verdict in Rape Case, With Help From DNA*, N.Y. TIMES, Nov. 10, 2005, at B1. The victim has never been able to identify her attacker, since he had pulled a sheet over her and she never saw his face.

Unimaginable a generation ago, DNA evidence now virtually guarantees a conviction in a sex offense case. DNA forensic procedures have attained the courtroom air of flawlessness, often referred to as the “mystical spell” of DNA. DNA is heroic truth. It is the forensic equivalent of divine intervention, with its Herculean capacity to free the falsely convicted and—just as importantly—to demonstrate that no malefactor can escape justice, no matter how long it takes. In her closing argument in the 2005 rape case, the Assistant District Attorney told the jury that the DNA profile recovered from the victim’s underwear and that of the defendant were “identical in every way.” Then she clinched her point: “Yankee Stadium could be filled with 50,000 people once a day for 54,000 years and there would not be another person who would match [the rapist’s] profile.” The prosecutor stressed to the jury that, by contrast to the “total domination” by the assailant during the brutal attack, now it was the victim’s “turn to hold the power—her turn, because DNA works.”³

II. DNA AND THE “CSI EFFECT”

DNA does, indeed, work. Theoretically, forensic DNA analysis of a thirty-two year old semen sample should be just as accurate as examination of bodily fluid from a rape kit collected the day before. But DNA’s capacity to survive the ravages of time attests only to the durability of genetic identity. It provides no affirmation that the DNA in question has been adequately gathered, examined, and maintained, nor whether testimony regarding DNA will be truthful or accurate. DNA’s reputation for scientific precision is in fact unwarranted. The record is littered with slapdash forensic analyses often performed by untrained, underpaid, overworked forensic technicians operating in crime labs whose workings reflect gross incompetence or rampant corruption.

Why does this matter? It matters because the average jury is not exposed to the track record of forensic science in the courtroom. The jury foreman in the 2005 rape trial expressed the common wisdom: “Everybody agreed that the DNA evidence was so strong . . . [t]hat’s why everybody voted guilty in this case.”⁴ The scientific basis of DNA testing can mislead the unsuspecting into believing that the introduction of DNA evidence in court not only ensures procedural regularity, but also washes away the need to examine any corroborating or contradictory evidence. One prime example of the cultural sway of DNA

3. *Id.*

4. *Id.*

is seen in the “CSI Effect,” popularly defined as “the perception of the near-infallibility of forensic science in response to the TV show.”⁵ *CSI: Crime Scene Investigation* and its forensic cousins have led juries to worship forensic testimony. Prosecutors and defense attorneys have begun to *voir dire* potential jurors on their *CSI* viewing habits. In the world portrayed on *CSI*, forensic technicians are always above reproach: “You never see a case where the sample is degraded or the lab work is faulty or the test results don’t solve the crime.”⁶

But how carefully is DNA analyzed and preserved in real labs, in cases not dreamed up by screenwriters? DNA matching is regarded as well-nigh infallible, so long as the sometimes microscopic quantity of DNA is handled with the utmost care in order to achieve its vaunted accuracy in identification. But “DNA samples recovered from crime scenes are often so small and in such disintegrated condition that they are easy to mishandle or manipulate.”⁷ In fact, the criminal justice system “does a poor job of distinguishing unassailably powerful DNA evidence from weak, misleading DNA evidence.”⁸ A recent *Chicago Tribune* examination of 200 DNA and death row exoneration cases since 1986 found that more than a quarter involved faulty crime lab work or testimony.⁹ As forensic expert William C. Thompson has concluded: “The amazing thing is how many screw-ups they have for a technique that they go into court and say is infallible.”¹⁰

One explanation for this unsatisfactory track record may be found in the generally poor training and minimal educational requirements of forensic analysts. The lack of certification or license requirements in the profession has also been cited to explain the often shoddy performance of forensic laboratories. The laboratory accreditation process remains voluntary in most states. Out of more than 1000 local, county and state

5. Paul Rincon, *CSI Shows Give ‘Unrealistic View’*, BBC NEWS, Feb. 21, 2005, available at <http://news.bbc.co.uk/1/hi/sci/tech/4284335.stm> (quoting forensics expert Max Houck).

6. Richard Willing, *‘CSI Effect’ Has Juries Wanting More Evidence*, USA TODAY, Aug. 5, 2004, at 1A, available at http://www.usatoday.com/news/nation/2004-08-05-csi-effect_x.htm (quoting forensics expert Dan Krane).

7. Ryan McDonald, *Juries and Crime Labs: Correcting the Weak Links in the DNA Chain*, 24 AM. J.L. & MED. 345, 356-57 (1998).

8. William C. Thompson et al., *Evaluating Forensic DNA Evidence: Essential Elements of a Competent Defense Review*, CHAMPION, Apr. 2003, at 1, available at <http://www.cs.wright.edu/itri/EVENTS/SUMMER-INST-2003/SIAC03-Krane2.pdf>.

9. See Maurice Possley et al., *Scandal Touches Even Elite Labs: Flawed Work, Resistance to Scrutiny Seen Across U.S.*, CHI. TRIB., Oct. 21, 2004, at C1.

10. Ruth Teichroeb, *Rare Look Inside State Crime Labs Reveals Recurring DNA Test Problems*, SEATTLE POST-INTELLIGENCER, July 22, 2004, at A1, available at http://seattlepi.nwsourc.com/local/183007_crimelab22.html.

crime labs nationally, only 294 have been accredited with the American Society of Crime Laboratory Directors as of 2005.¹¹ Nor are forensic evaluators subject to any regulatory body to set standards and oversee quality performance.

Foremost among the many validation measures available to forensic laboratories is the retesting of genetic samples to avoid both false positives and erroneous exclusions. The opportunity to retest a DNA sample is considered one of the guarantees against a false charge involving genetic proof. To ensure the reliability of DNA analysis, scientific protocols call for splitting a sample before testing, whenever possible, so that the analysis may be replicated by another forensic examiner. Yet some crime labs use up all the genetic material in testing so that the opportunity for re-testing is destroyed.¹²

Each day, more genetic samples from rape kits are collected and deposited into state laboratories, while lack of funding has put the states behind in processing the hundreds of thousands of samples they already have. The pressure of high DNA backlogs accentuates the normal job bias affecting many forensic analysts. Lack of independence is cited as a major problem affecting the majority of crime labs, which are run by police departments. Technicians who work in such labs can come to see themselves not as neutral fact-finders, but as “police in lab coats.”¹³ This pro-prosecution bias is evident at every stage of the forensic process. Evidentiary material is often presented to the police analyst in a

11. See AM. SOC. OF CRIME LAB. DIRS., LAB. ACCREDITATION BD., LABORATORIES ACCREDITED BY ASCLD/LAB, <http://www.ascl-d-lab.org/legacy/asclablegacylaboratories.html> (last visited Nov. 22, 2005); Press Release, S.F. Police Dep't, SFPD Crime Lab Receives Accreditation (Sept. 6, 2005), available at http://www.sfgov.org/site/police_index.asp?id=34258.

12. See, e.g., James Herbie DiFonzo, *In Praise of Statutes of Limitations in Sex Offense Cases*, 41 HOUS. L. REV. 1205, 1248-49 (2004) (describing the practice of the Houston Crime Lab). Whether due to lack of awareness, resources, or for some unknown combination of reasons, “less than 1% of court cases involving DNA are reviewed by experts working on behalf of the defense.” *Introduction*, FORENSIC BIOINFORMATICS, <http://www.bioforensics.com/Frames/intro.html> (last visited Nov. 20, 2005).

13. Editorial, *Testing Questions; HPD Crime Lab Measures Not Instilling Confidence*, HOUS. CHRON., Feb. 4, 2003, at A40; see also Thompson et al., *supra* note 8, at 4 (noting the problems when forensic scientists refuse to take appropriate steps to ‘blind’ themselves to the government’s expected (or desired) outcome when interpreting test results). Thompson and his co-authors uncovered many instances in which forensic analysts were “acutely aware of which results will help or hurt the prosecution team.” *Id.* One example: In a case where the defense lawyer had suggested that another individual besides the defendant had been involved in the crime, and might have left DNA, the DNA laboratory notes include the notation: “Death penalty case. Need to eliminate [other individual] as a possible suspect.” *Id.* (alteration in original). Another example: When her interpretation of genetic data was challenged, one analyst defended her position by saying: “I know I am right—they found the victim’s purse in [the defendant’s] apartment.” *Id.* (alteration in original).

suggestive manner, accompanied by police memos indicating the rationale for suspecting the guilt of a particular suspect.

In a previous article, I described the Houston, Texas Crime Lab and the manner through which its serious deficiencies led to the erroneous rape conviction of Josiah Sutton.¹⁴ Forensic testimony presented by the prosecution in that case “proved” that the probability of a coincident match was 1 in 694,000 African-American males. In fact, subsequent testing by an independent private laboratory showed that the probability of a match exceeded 1 in 8 African-American males. Worse, the Crime Lab failed to present DNA evidence which should have excluded Sutton as one of the rapists. The Houston Crime Lab has been shut down since December 2002 as a result of the scandal over this and other troubling cases.

In 1997, Paul C. Giannelli noted that “major abuses in the use of scientific evidence have surfaced, including perjury by expert witnesses, faked laboratory reports, and testimony based on unproven techniques.”¹⁵ Since that time, the accounts of crime lab abuses have proliferated, involving potentially hundreds of cases.¹⁶ To illustrate the scope and range of the problems, the following is a tiny sampling of recent (2003-2005) documented crime lab errors:

FBI Lab–DNA: A technician failed to follow proper procedures for two years, omitting quality-control checks designed to prevent foreign material from contaminating lab samples. This violation of testing protocols cast doubt on the accuracy of the results. FBI lab officials notified prosecutors, outside labs, and others involved in the relevant cases, to allow them the opportunity to retest and challenge the FBI’s analysis and conclusions.¹⁷ In May 2004, FBI analyst Jacqueline Blake pleaded guilty to a criminal charge of making false statements regarding her failure to follow protocols in approximately 100 DNA

14. See DiFonzo, *supra* note 12, at 1242-54.

15. Paul C. Giannelli, *The Abuse of Scientific Evidence in Criminal Cases: The Need for Independent Crime Laboratories*, 4 VA. J. SOC. POL’Y & L. 439, 441 (1997).

16. See generally Possley et al., *supra* note 9 (reporting on evidence of problems ranging from negligence to outright deception uncovered in recent years at crime labs in at least seventeen states); Ellen Perlman, *Overwhelmed by a Flood of DNA Evidence, Public Crime Labs Are Performing Poorly*, GOVERNING MAG., Apr. 2004, available at http://bioforensics.com/news/governing_4-04.html (describing “serious errors” in many crime labs); Robert Tanner, *Crime Labs Placed Under a Microscope: Miscues Lead to Calls for Changes in Forensic Labs*, WASH. POST, July 27, 2003, at A5 (discussing recent forensic mishaps and wrongful convictions attributable to crime labs or suspect forensic science).

17. See John Solomon, *FBI’s DNA Lab Subject of Probe*, TORONTO STAR, Apr. 29, 2003, at A12; Richard Willing, *Mueller Defends Crime Lab After Questionable DNA Tests*, USA TODAY, May 1, 2003, at 3A.

analyses. The Inspector General concluded that “Blake’s misconduct, and the Laboratory’s failure to detect it for a period exceeding two years, has damaged intangibly the credibility of the FBI Laboratory.”¹⁸

FBI Lab–Fingerprints: As a result of a fingerprint match which an FBI affidavit determined was a “100 percent positive identification,” attorney Brandon Mayfield was arrested in connection with the Madrid terrorist bombings in 2004. After two weeks in prison, Mayfield was released when the FBI admitted that their fingerprint laboratory had erred.¹⁹

St. Paul, MN: Out of 350 recent cases, twenty-five DNA samples were contaminated with a lab worker’s or another person’s DNA. In seven of those cases the DNA sample was switched from one person’s case to another. That represents a contamination rate of two percent, or one out of every fifty cases.²⁰

Seattle, WA: Forensic scientists contaminated tests or made other mistakes while handling DNA evidence in at least twenty-three cases involving major crimes over the last three years. Forensic scientists tainted tests with their own DNA in eight of the twenty-three cases. They made mistakes in six others, from throwing out evidence swabs to misreading results, identifying the wrong rape suspect. Tests were contaminated by DNA from unrelated cases in three examinations, and between evidence in the same case in another.²¹

Virginia Division of Forensic Science: The scientific audit report by the American Society of Crime Laboratory Directors (ASCLD) found numerous errors in the analysis and interpretation of DNA evidence in the case of Earl Washington, a man who came within days of execution in Virginia for a crime he did not commit. What the auditors found when they studied these DNA reports was that the Virginia Division of Forensic Science (DFS) had misinterpreted their results and improperly excluded another man, a convicted sex-offender who

18. See OFFICE OF THE INSPECTOR GEN., U.S. DEP’T OF JUST., THE FBI DNA LABORATORY: A REVIEW OF PROTOCOL AND PRACTICE VULNERABILITIES iii (2004), available at <http://www.usdoj.gov/oig/special/0405/final.pdf>.

19. See David Feige, *Printing Problems: The Inexact Science of Fingerprint Analysis*, SLATE, May 27, 2004, <http://www.truthinjustice.org/fingerprint-error.htm>; *FBI Apologizes to Lawyer Held in Madrid Bombings*, MSNBC.COM, May 25, 2004, <http://msnbc.msn.com/ID/5053007/>.

20. David Chanen, *Defense Attorneys Raise Concerns About DNA Sample Mix-up*, MINNEAPOLIS STAR TRIB., May 20, 2005, at 1B, available at http://www.law-forensic.com/minn_lab_05_01.htm; *BCA Crime Lab Under the Microscope*, KSTP.COM, May 20, 2005, available at <http://www.kstp.com/article/stories/S8367.html?cat=1>.

21. Teichroeb, *supra* note 10.

may be the true killer. The auditors also identified numerous deviations from the lab's own protocol, possible contamination in early tests, inconsistent results, and conclusions that were not scientifically sound.²²

III. WHY STATUTES OF LIMITATIONS STILL MATTER IN THE AGE OF DNA

With the 2005 rape case in mind, New York County District Attorney Robert M. Morgenthau has called for New York to join the groundswell of states ending or significantly extending statutes of limitations: since DNA is perfect, limitations periods are obsolete.²³ Why do we have statutes of limitations in criminal cases? The primary reasons for restrictions of time revolve around universally accepted notions that prompt investigation and prosecution insure that any conviction is reliable, and not the product of uncertain memory or ersatz evidence. Reasonably fresh proof is deemed more trustworthy than older evidence possibly corroded by time. Time fades recollection, witnesses die, and documentation vanishes. Evidence rebutting assertions of criminal conduct often becomes a casualty of the clock. However, Morgenthau referred to the defendant in the 2005 case as “the poster child for abolishing the statute of limitations—he was identified with DNA that was over 30 years old. People’s memories may fade over time—DNA does not.”²⁴

But the premise of that argument is quite wrong. DNA is only perfect in theory. In the real world, DNA analyses are subject to the same forces of incompetence and inveiglement as any other evidentiary process. We have become enraptured by DNA, and are thus blind to what we know is true in all other corners of our lives. Human folly can pervade even scientific evidence. In fact, because the algorithms of forensic analysis are so removed from our quotidian existence, we become credulous at the very moment when skepticism is most needed. We understand, on an abstract basis, that there is no dispute over the scientific validity of DNA testing. But we then give credence to an

22. James Dao, *Lab's Errors in '82 Killing Force Review of Virginia DNA Cases*, N.Y. TIMES, May 6, 2005, at A1.

23. See DiFonzo, *supra* note 12, at 1217-26 (describing the movement in the states to erase or markedly extend limitations periods in sex offense cases).

24. News Release, District Attorney, New York County (Apr. 28, 2005), available at <http://www.manhattanda.org/whatsnew/press/2005-04-28.htm>. Note that the statute of limitations did not bar the 2005 rape conviction, since it was tolled during the many years the defendant was a fugitive.

evidentiary conclusion in a specific case without reflecting on the potential for errors in the undertaking. If we were to concede that DNA always and unmistakably identifies the rapist, then there would indeed be no entries on the other side of the ledger: no concern for cloudy memories or cavalier proof; no acknowledgment of the need to bestir the human and technical apparatus of the State to act expeditiously in apprehending and prosecuting evildoers; and, finally, no sense that limitations periods help assure accuracy in the criminal justice system. But, as case after case has shown, forensic testing and testimony are as prone to error as is any human endeavor. The record is larded with instances of contaminated samples, mislabeled vials, rushed and inaccurate analyses, and outright perjury.

In our gritty criminal justice system, forensic testing is not conducted in the impeccable, prototypical laboratory of a major research institution. Nor does the analyst operate on the crystalline set of *CSI*. More typical is the Detroit Crime Lab. Here is a description: Housed in a former elementary school, the lab suffers from power surges and brownouts stemming from its irregular power source. The freezers to preserve DNA evidence and rape kits are completely full, but the building lacks the electrical capacity to add appliances. Bright yellow police tape cordons off a quarter of the chemistry lab because water leaks have lifted the linoleum tiles and made the floor unsafe. There is no vault to store evidence that has been processed for fingerprints. Shotguns and automatic rifles are stuffed into shopping carts for storage; inside the walk-in freezer for the DNA samples and rape kits, evidence bags are stacked on the floor. Plastic milk crates and cardboard boxes hold hundreds of manila envelopes marked with fluorescent tags. Materials used for the bomb disposal unit must be stored outside because the crime lab does not have an indoor storage area.²⁵

The Houston Crime Lab is arguably worse.²⁶ An independent audit in 2002 exposed widespread problems: "Analysts botched simple tests. They misinterpreted data. They stored evidence in a room where the ceiling leaked so badly that, one stormy night, 34 DNA samples were destroyed."²⁷ Although internal audits of the crime lab were mandatory,

25. See David Josar, *Space Crunch Hampers Lab Work: Evidence is Stacked in Boxes, Freezer is Full as Detroit's Technicians Attempt to Analyze Data*, DETROIT NEWS, Apr. 21, 2005, at 8C, available at <http://www.detnews.com/2005/metro/0504/21/C08-157208.htm>.

26. See DiFonzo, *supra* note 12, at 1242-49 (describing the Houston Crime Lab). All quotations in the text below are drawn from sources cited in that article.

27. See DiFonzo, *supra* note 12, at 1243.

they “have not been performed in the last several years.”²⁸ Houston’s District Attorney, who was responsible for presenting the forensic testimony from the DNA lab, admitted that he knew that the lab had “been hiring people for years . . . who have no [DNA] training.”²⁹ City Councilwoman Carol Alvarado described the conditions she observed in touring the facility in June, 2002: “These were not just leaks; these were holes There were trash buckets and water buckets throughout the lab. They were having to move tables around, because some of the leaks were near and sometimes above where the analysis was occurring.”³⁰ A photograph published in the Houston Chronicle showed the inside of the Houston crime lab on a rainy day: “Ceiling tiles missing. A wastebasket in the middle of the floor to catch a leak. A yellow barricade to warn people so they won’t slip on the floor.”³¹

The conditions in which DNA and other forensic testing actually occurs in the United States thus call for extreme caution before evidentiary free passes are afforded the resulting analyses, particularly when many years have passed and the opportunity to cross-examine the forensic examiner has long since passed away. In short, while statutes of limitations may be repealed, neither the laws of human nature nor recurrent budgetary shortfalls are so readily altered or remedied.

IV. PROPOSED LEGAL REFORMS AND ACCREDITATION REQUIREMENTS

The current disconnect between the public perception of DNA and the reality of forensic testing prompts me to suggest certain reforms:

1. *Retain Reasonable Statutes of Limitations*

The traditional rationales for statutes of limitations continue to supply persuasive evidence for caution before shifting the balance between the state and the individual. Especially in the age of DNA, the risk of an erroneous verdict is great and is generally related to the endemic human factors of evidentiary mismanagement and mendacious

28. *Id.* at 1244 (quoting Steve McVicker & Roma Khanna, *Crime Lab Chief Reveals Failings: In Internal Papers, Director Described Ongoing Problems*, HOUS. CHRON., Apr. 2, 2003, at A17).

29. *Id.* at 1244 n.225 (quoting Roma Khanna & Steve McVicker, *Bradford Knew of DNA Lab Problem: DA Denies Claim He, Too, Was Aware of Poor Conditions*, HOUS. CHRON., Feb. 26, 2003, at A1).

30. *Id.* at 1247 (quoting Karin Brulliard, *Tex. Lawmakers Probe Lab Over Reports of Tainted DNA Evidence*, WASH. POST, Mar. 1, 2003, at A5).

31. *Id.* (quoting Thom Marshall, *Leaky Crime Lab is Tip of Iceberg*, HOUS. CHRON., Feb. 28, 2003, at A31).

witnesses. Ascertaining the perfect balance among the extraordinarily public policy concerns in sexual offense cases is an impossible task. But the goal should be to allow prosecutions in a timely—and thus not unlimited—manner, in order to minimize the risk of erroneous convictions.

2. *Require Accreditation for Labs and Certification for Analysts*

The experiment of voluntary accreditation and haphazard analyst certification has failed. As a baseline proposition, states and the federal government should hold forensic science to professional standards. DNA samples should be processed exclusively in nationally-accredited laboratories, whose certification procedures, employee training and evaluation records, and laboratory error rates are made public.³²

3. *Condition the Admissibility of DNA Evidence Upon the Preservation of Enough DNA Sample to Allow for an Independent Re-test*

Replication is at the heart of science. In DNA testing, this means that the laboratory must retain a portion of the evidence sample in order to allow for re-testing.³³ Given the experience with negligent or intentional violation of this standard, an exclusionary rule is appropriate as a prophylactic measure to ensure compliance with this critical component.

4. *Remove Crime Labs from the Authority of the Prosecutor and the Police*

The pro-prosecution bias of forensic examiners has been repeatedly documented. It seems unlikely to end until law enforcement no longer

32. These certification standards have existed since 1998 and are nationally recognized if not enforced. They are known as the DNA Advisory Board Quality Assurance Standards for Forensic DNA Testing Laboratories, and are available at <http://www.cstl.nist.gov/div831/strbase/dabqas.htm> (last visited Nov. 21, 2005). They detail standards on issues such as a quality assurance program, laboratory organization and management, forensic examiner certification, an evidence control system to ensure the integrity of physical evidence, DNA sample quality validation, forensic analytical procedures, equipment calibration and maintenance, procedures for taking and maintaining case notes to support the conclusions drawn in laboratory reports, administrative and technical reviews, proficiency testing, corrective action, audits, and environmental health and safety programs.

33. Such a requirement is not unknown. *See, e.g.*, GA. CODE ANN. § 17-3-1(c.1) (2005) (requiring that “a sufficient portion of the physical evidence tested for DNA [be] preserved and available for testing by the accused”); OKLA. STAT. ANN. tit. 22, § 152(C)(2)(b) (West 2005) (requiring that “physical evidence [be] collected and preserved that is capable of being tested to obtain a profile from deoxyribonucleic acid (DNA)”).

employs and supervises the same forensic examiners from whom society expects complete neutrality and fealty only to scientific norms. Crime labs today are an arm of law enforcement, funded with criminal justice dollars, and often physically located in police buildings. But this linkage to law enforcement is the very one which taints the evidence. In order to remove this attachment, we will have to decide whether DNA matching and other forensic procedures are truly scientific, and thus objectively neutral, or are tools of the law enforcement team, and pressured to achieve results suitable for the prosecution. I propose that DNA testing be segregated from the adversary system. Public crime labs should be funded and administered independently from the police and prosecutor, and forensic analysts and lab directors should not be subject to review by law enforcement personnel. Further, defense attorneys should have access to DNA testing on the same basis as the prosecution. Only in this way will the crime labs achieve independence, and with it the freedom to engage in true science.

V. CONCLUSION

I make these proposals in an effort to spark a badly needed dialogue with scholars, forensic scientists, law enforcement personnel, defense attorneys, judges, and legislators. My recommendations will doubtlessly require clarification, even modification; they may well arouse opposition. But if we are to stop our deadly dalliance with DNA, and instead aim at asserting proper legal authority over *the actual practice* of forensic science, we should begin by taking the issue more seriously than we have in the past. Only then will we be able finally and honestly to trust DNA.