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In Praise of Statutes of Limitations in Sex Offense Cases

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IN PRAISE OF STATUTES OF LIMITATIONS IN SEX OFFENSE CASES

James Herbie DiFonzo*

"Rapists Shouldn’t Be Able to Run Out the Clock."

"[DNA] is very, very reliable if you do two things right: if you test it right, and if you interpret the results right . . . . The problem is that jurors think it’s absolute and infallible."

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1. Steve Chapman, Rapists Shouldn’t Be Able to Run Out the Clock, CHI. TRIB., Mar. 12, 2000, at C19 (detailing the California legislature’s consideration of a bill to abolish the state’s statute of limitations in cases in which DNA evidence has been preserved).

I. INTRODUCTION

Suppose that you have agreed to represent an individual charged with rape. You learn that the indictment, which was returned one day before the statute of limitations expired, identified the perpetrator not by name, but only by his DNA genetic profile. You are also told that the complaining witness cannot make any identification in the case, and so the prosecution will largely be relying on a DNA “match” that the State claims exists between a sample from the rape kit obtained from the victim shortly after the incident and a DNA sample procured more recently from your client. Your client denies even knowing the complainant, much less committing the rape, but he cannot account for his whereabouts on the day in question. You look at the relevant dates on the indictment and wonder how you will defend against a rape accusation twenty years old.

This hypothetical only appears farfetched. We live in an age of burgeoning and ever-improving forensic DNA techniques, leading to prosecutorial and legislative efforts to separate serious sexual assaults from the average run of criminal cases. Primary among these efforts are attempts to outflank, extend, or abolish the relevant statutes of limitations.3 “John Doe” indictments

listing a genetic marker in lieu of a name illustrate one method to extend the time within which a sexual assault case may be prosecuted.⁴ Legislative modification or abrogation of the limitations periods constitutes another.⁵ A wealth of legal and scientific periodicals has discussed the evidentiary breakthrough effected by DNA.⁶ This documentation dovetails with a smaller, but still extensive, number of articles detailing creative legislative and prosecutorial efforts to overcome the ordinary statutes of limitations problems in prosecuting very old sexual assault cases.⁷ Most of this literature has focused on the ideal case, that is, on the astonishing reach of DNA technology, with its assurance that genetic typing is indelible and thus available indefinitely.⁸

But our society's actual experience with forensic DNA analysis has not lived up to the scientific promise. The record is replete with instances and patterns of critical examinations performed under conditions in crime laboratories that reveal the effects of budgetary shortages, incompetent management, and arrant corruption.⁹ “Revelations of shoddy work and poorly run facilities have shaken the criminal justice system like never before, raising doubts about the reputation of labs as unbiased

⁴. See David Doege, Novel Warrant IDs Suspect Only by DNA Databank Evidence Used to Charge “John Doe” in Rape, MILWAUKEE J. SENTINEL, Sept. 2, 1999, available at 1999 WL 21533138 (recognizing the use of DNA to identify rapists before the statute of limitations ends); Andrew C. Bernasconi, Comment, Beyond Fingerprinting: Indicating DNA Threatens Criminal Defendants' Constitutional and Statutory Rights, 50 AM. U. L. REV. 979, 981–83 (2001) (describing how prosecutors have used DNA indictments to prevent the statute of limitations from protecting later-identified defendants).

⁵. See Chapman, supra note 1.

⁶. See, e.g., Bernasconi, supra note 4, at 985–89 (recounting the historical developments of DNA in criminal investigations). See generally Ryan McDonald, Juries and Crime Labs: Correcting the Weak Links in the DNA Chain, 24 AM. J. L. & MED. 345 (1998) (observing that DNA evidence and its admissibility are no longer in serious dispute); Douglas M. Smith, Genetic Witness: By Thy DNA So Shall Ye Be Known, 1 HEALTH L.J. 207 (1993) (noting that DNA evidence has gained general acceptance within the scientific community and is therefore admissible at criminal trials); Sally E. Renskers, Comment, Trial by Certainty: Implications of Genetic “DNA Fingerprints”, 39 EMORY L.J. 309 (1990) (discussing the increasing use of DNA evidence).

⁷. See generally Bernasconi, supra note 4 (observing the effect that DNA warrants have on statute of limitation policies); Jonathan W. Diehl, Note, Drafting a Fair DNA Exception to the Statute of Limitations in Sexual Assault Cases, 39 JURIMETRICS J. 431 (1999) (commenting on legislative efforts to create an exception to statutes of limitations in sexual assault cases); Veronica Valdivieso, Note, DNA Warrants: A Panacea for Old, Cold Rape Cases?, 90 GEO. L.J. 1009 (2002) (reviewing practical and constitutional implications of DNA warrants).

⁸. See Bernasconi, supra note 4, at 989 & n.60 (revealing that DNA has the ability to remain viable “for thousands of years if maintained under appropriate conditions”).

⁹. See Liptak, You Think DNA Evidence Is Foolproof?, supra note 2 (discussing the problems created by insufficient training of laboratory personnel and overreliance on DNA as evidence).
This description does not apply to all, or even most, of the cases involving genetic typing. But what we do know about the conduct in many cases is quite disturbing and suggests that DNA technology may not, as it is actually deployed in criminal cases, be as successful at weeding the innocent from the guilty as the scientific structure of the technology avows.

This Article explores what happens when spectacular scientific breakthroughs are administered within a criminal justice system whose stance of impartiality is often undermined by sloppy or tainted analysis and testimony as it copes with the pressure to resolve an enormous backlog of DNA samples. A hypothetical case involving the problems an attorney might face in representing a client many years after an accusation of rape serves as the frame for a discussion of both the serious issues and suggested reforms. After this Introduction, Part II reconsiders the policy behind statutes of limitations, both as originally understood and in light of the forensic breakthroughs utilizing DNA identification methods. Part III explores the failure of state and federal laboratories to maintain professional forensic standards, concluding that in many cases these laboratories disregard basic recordkeeping and sample-retention protocols. Part IV suggests restraint in our pell-mell rush to limit and eliminate limitations periods in the cases most affected by DNA analysis. In addition, Part IV considers whether rape victims truly benefit from the possibility of open-ended prosecutions. Finally, Part IV outlines a limitations proposal designed to take account of both the promise of the forensic future and the peril in our current simultaneous overreliance on scientific theory and underestimation of human failings. As a whole, this Article is by no means a how-to manual, but rather a hybrid composition: the theoretical questions of statutory limitations and the law's punitive and therapeutic aims meet their answer in the human, quotidian problems of DNA case-processing. Ultimately, the Article evaluates a key piece of a larger human puzzle: how should the legal system deal with incorruptible evidence in very fallible hands?

II. ARE STATUTES OF LIMITATIONS STILL RELEVANT IN THE AGE OF DNA?

As you read over the indictment detailing the accusation against your client, you ponder two questions: How can a criminal case be prosecuted (and defended) twenty years after the crime? How can the prosecution satisfy the statute of limitations with a formal charge identifying your client only by a numerical code purporting to be his genetic marker?

A. Limitations Policy Revisited

The first question is an old conundrum, while the second was first widely reported only in 1999. Nonetheless, these two issues are intertwined. Despite an overlapping array of rationales and a broad spectrum of specific provisions, the principal concern of criminal statutes of limitations is accuracy of conviction.

Perhaps the most trenchant summary of the rationale for criminal limitations periods may be found in the Working Papers of the National Commission on Reform of Federal Criminal Laws:

The primary reasons for restrictions of time revolve around universally accepted notions that prompt investigation and prosecution insures that conviction or acquittal is a reliable result, and not the product of faded memory or unavailable evidence; that ancient wrongs ought not to be resurrected except in some cases of concealment of the offense or identity of the offender; and that community security and economy in allocation of enforcement resources require that most effort be concentrated on recent wrongs.

Under the umbrella of ensuring accuracy, traditional rationales for blocking the late filing of criminal cases fall into several categories. The first set incorporates the desire that prosecutions be based upon "reasonably fresh evidence," deemed more trustworthy than older evidence possibly corroded by time. "There is less possibility of an erroneous conviction if prosecution is not delayed too long." Statutes of limitations are "usually

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11. See Doege, supra note 4 (discussing the 1999 arrest warrant issued for "John Doe," described only by his DNA profile). Refer to Part II.C infra (discussing genetic marker indictments and warrants).


15. Id.; see also Toussie v. United States, 397 U.S. 112, 114–15 (1970) (declaring that a limitations period "is designed to protect individuals from having to defend
considered the primary guarantee against bringing overly stale criminal charges.\textsuperscript{16} Time fades memories, witnesses die or disappear, and documentation is destroyed or irretrievably misplaced.\textsuperscript{17} Evidence rebutting assertions of criminal conduct, as well as the support mustered by the defendant in mitigation of punishment, often become casualties of the clock.\textsuperscript{18} To be sure, the expiration of a limitations period supplies a “nonexculpatory defense,”\textsuperscript{19} but reducing the possibility of an erroneous conviction obtained when the defense is handicapped by time’s passage remains at the center of limitations policy.\textsuperscript{20} As the U.S. Supreme Court recently reiterated, statutes of limitations evince a policy judgment born of evidentiary concerns,\textsuperscript{21} such as whether “the passage of time has eroded memories or made witnesses or other evidence unavailable.”\textsuperscript{22}

Promoting diligent prosecution constitutes a second major legislative rationale.\textsuperscript{23} Some courts emphasize the role that
limitations periods have in prompting official attention to crime, suggesting that the legislative purpose aims “to discourage inefficient or dilatory law enforcement rather than to give offenders the chance to avoid criminal responsibility for their conduct.”

Obviously, inducing intelligent use of law enforcement resources also furthers the goal of enhancing accurate outcomes.

Rehabilitative concerns comprise another category of limitations rationales. A long period during which the defendant has refrained from additional depredations increases the likelihood of self-rehabilitation and diminishes the necessity for imposition of the criminal sanction. Declaring an endpoint to prosecution may itself further this reconstructive rationale:

The criminal who has avoided prosecution for several years and who seeks to rehabilitate himself would be encouraged in this objective by the assurance that whatever progress he makes will not be shattered by enforcement of some long dormant claim of the state to his freedom.

By the same token, a chronic offender is more easily—and with greater likelihood of success—prosecuted for more recent crimes. The greater amenability of these later criminal acts to prosecution may render the “need for protecting society against the perpetrator of a particular offense . . . less compelling as the years pass.” This latter rationale allows statutes of limitations to balance two social interests: “allow[ing] the government sufficient time to investigate and prosecute criminal conduct,

24. State v. Swartz, 723 N.E.2d 1084, 1086 (Ohio 2000) (quoting State v. Climaco, Climaco, Seminatore, Lefkowitz & Garofoli Co., 709 N.E.2d 1192, 1195 (Ohio 1999)); see also Ochoa & Wistrich, supra note 18, at 492 (noting that “prompt enforcement results in greater deterrence of wrongdoing,” and arguing that limitations theory furthers this linkage in three ways: (1) deterrence is enhanced when punishment is meted out “closer in time to the offense;” (2) delay allows for further depredations from the same offender; and (3) “the incremental value of deterrence obtained by the pursuit of old claims is likely to be minimal,” because either the wrongdoer has reformed and need be deterred no longer or the unrepentant criminal will have afforded the legal system more readily prosecutable cases to target).

25. See NATIONAL COMMISSION ON REFORM, supra note 13, at 288 (“[D]eadlines have a healthy influence on the dispatch of public business. Knowledge by prosecuting attorneys and investigators that there is only a specified time within which to act will lead to responsible decisions in allocating resources.”).

26. See A Penetrable Barrier, supra note 17, at 634 (observing that “those persons who have committed crimes in the distant past and have not repeated their errors are apparently self-rehabilitated and as a result seem to offer little cause for fear as to their future conduct”).

27. Id.; see also People v. Zamora, 557 P.2d 75, 81 (Cal. 1976) (“A never-ending threat of prosecution is more detrimental to the functioning of a civilized society than it is beneficial.”).

28. See MODEL PENAL CODE § 1.06 cmt. 1 at 86 (Tentative Draft No.5, 1956).

29. Id.
while shielding the defendant from the burden and jeopardy of confronting distant offenses.

Despite the hard-and-fast character of statutes of limitations, legislative policy usually allows certain equitable exceptions to the expiration of the limitations period. For example, statutes commonly turn off the limitations clock when defendants have, through flight or self-concealment, frustrated the reasonable efforts of the State to locate them. The federal provision, 18 U.S.C. § 3290, declares, "No statute of limitations shall extend to any person fleeing from justice." This statute balances two concerns: (1) avoiding an accused's manipulation of the limitations period "by intentionally avoiding capture and prosecution on a pending charge," and (2) extending the statutory protection to "a person utterly without knowledge that criminal charges are pending who happens to avoid the authorities (who may or not be diligent in searching for him)." Tolling the running of the statute in these circumstances reflects legislative enshrinement of an equitable principle analogous to the "clean hands" doctrine. An accused who absconds for a certain length of time in order to frustrate prosecution will not be able to complain that the State may have an equivalent period of additional time within which to commence the case. Thus, to take advantage of the tolling effect of this provision, federal


If a long time goes by, the expenditure of society's resources in criminal prosecution—in terms of the costs of the investigation, trial, and (if the burden of proof at trial is met) punishment—and the costs to the community that follow from removing a now productive member from its midst are not warranted. Id. The major objection to this line of thought is that limitations statutes block all prosecutions after the passage of a specified period of time, without regard to the individual assessment of any retributive or rehabilitative concerns. See id. at 266–67; see also 2 ROBINSON, supra note 19, § 202(b), at 465 ("[T]he absolute rule embodied in a statute of limitations will no doubt encompass cases where the retributive impulse has not subsided and where the statute will frustrate the community's sense of what justice demands.").

31. See 2 ROBINSON, supra note 19, § 202(d) (establishing grounds upon which the statute of limitations may be tolled based on the defendant's actions).


34. Id.

35. See Developments in the Law, supra note 20, at 1234–37 (describing how the statute of limitations developed historically based on equitable principles).

36. See United States v. Marshall, 856 F.2d 896, 900 (7th Cir. 1988) ("The tolling statute reflects the congressional belief that where the defendant impedes the discovery and prosecution of his criminal conduct by fleeing from justice, his right to avoid prosecution for distant offenses is diminished while the government's need for additional discovery time is strengthened.").
prosecutors must prove that the accused fled for the purpose of foiling arrest or prosecution.  

A similar balancing may be seen in state statutes. Delaware's is typical, excluding from the limitations calculus "any time when the accused is fleeing or hiding from justice so that the accused's identity or whereabouts within or outside the State cannot be ascertained, despite a diligent search for the accused." Some states exclude all time during which the accused is absent from the jurisdiction, no matter what the motivation, but those states rely upon the "clear and unambiguous language of [the] tolling provision [that] places the citizenry on notice that the criminal statute of limitations will be tolled when a criminal suspect 'go[es] out of the state.'" Other states further limit the tolling period for the defendant's absence by setting an ultimate deadline for prosecution.

Other equitable considerations inform separate tolling provisions. Periods of time during which the accused is engaged

37. See Ross v. United States Marshal, 168 F.3d 1190, 1194 (10th Cir. 1999); United States v. Rivera-Ventura, 72 F.3d 277, 283 (2d Cir. 1995); United States v. Fonseca-Machado, 53 F.3d 1242, 1243-44 (11th Cir. 1995); Marshall, 856 F.2d at 897-900; United States v. Gonsalves, 675 F.2d 1050, 1052 (9th Cir. 1982); Donnell v. United States, 229 F.2d 560, 565 (5th Cir. 1956); Brouse v. United States, 68 F.2d 294, 295-96 (1st Cir. 1933). The Eighth and D.C. Circuits have held that the mere absence of a defendant from the prosecution's jurisdiction, regardless of intent, may serve to toll the statute. See In re Assarsson, 687 F.2d 1157, 1161-62 (8th Cir. 1982) (citing King v. United States, 144 F.2d 729, 731 (8th Cir. 1944)); Green v. United States, 188 F.2d 48, 48 (D.C. Cir. 1951) (citing McGowen v. United States, 105 F.2d 791, 792 (D.C. Cir. 1939)). But the better-reasoned analysis concludes that flight encompasses intent to avoid detection and that therefore a specific mens rea must be proven. See United States v. Duff, 931 F. Supp. 1306, 1310-11 (E.D. Va. 1996) (discussing both sets of cases and concluding that those requiring the government to prove intent to avoid prosecution correctly interpret the statute).

38. DEL. CODE ANN. tit. 11, § 205(h)(1) (2001). In Delaware, an intent to avoid detection or prosecution is essential to establish flight from prosecution. See, e.g., State v. McKenzie, 174 A.2d 318, 320 (Del. Super. Ct. 1961) (establishing that a defendant whose absence from the jurisdiction was not with the intent of avoiding prosecution was entitled to the benefits of the statute of limitations); see also State v. Thomas, 459 N.W.2d 204, 208 (Neb. 1990) (noting that the "fleeing from justice" exception applies to defendants who secrete themselves within or without the state for the purpose of evading discovery or punishment).

39. See, e.g., State v. Lee, 948 P.2d 641, 648 (Kan. 1997) (applying statutory exclusion from the statute of limitations of all the time during which "the accused is absent from the state") (quoting KAN. STAT. ANN. § 21-3106(6)(a) (1995)); State v. Thompson, 427 N.W.2d 266, 268-69 (Minn. Ct. App. 1988) (applying statutory limitations exclusion respecting any time during which the defendant was not "an inhabitant of, or usually resident within" the jurisdiction) (quoting MINN. STAT. § 628.26(K) (1982)).

40. State v. Cawley, 799 P.2d 574, 577 (N.M. 1990) (second alteration in original) (quoting N.M. STAT. ANN. § 30-1-9(A) (Michie 1984)).

41. See, e.g., ME. REV. STAT. ANN. tit. 17-A, § 8(3)(A) (West 1964 & Supp. 2003) (providing for the tolling of the statute of limitations "during any time when the accused is absent from the State, but in no event shall this provision extend the period of limitation otherwise applicable by more than 5 years").
in concealing the crime constitute another exception to the unfettered running of the statute of limitations. Concealment includes behavior "calculated and designed to prevent discovery of the crime" and is distinguished from mere nondisclosure. The legal trade-off here prevents the accused from taking advantage of any efforts to frustrate the State's discovery of the crime and allows the prosecution access to the full limitations period. This tolling provision draws the line neatly between interference and noncooperation, reflecting the broader distinction between obstruction of appropriate process and the right against self-incrimination enshrined in the Fifth Amendment. Related statutory provisions extend the temporal reach of prosecutions beyond the ordinary deadline in certain cases of fiduciary breach, forgery, or similar crimes, as well as in cases of misconduct by public officials. In these cases, the class approach often times the running of the limitations period from the discovery of the offense and provides an overall deadline to the prosecution.

42. See Developments in the Law, supra note 20, at 1220–24 (describing specific examples of when the defendant's conduct may suspend or postpone the statute of limitations).


45. See Kifer, 740 N.E.2d at 587–88 (recognizing "a balance between an individual's interest in repose and the State's interest in having sufficient time to investigate and build its case").

46. See, e.g., Del. Code Ann. tit. 11, § 205(c) (2001) (extending the limitations period in cases involving "forgery, fraud, breach of fiduciary duty or actively concealed theft or misapplication of property by an employee, pledgee, bailee or fiduciary"); Me. Rev. Stat. Ann. tit. 17-A, § 8(5)(A) (West 1964) (providing for prosecution even after expiration of the limitations period for certain crimes based upon breach of fiduciary obligation); Wis. Stat. Ann. § 939.74(2)(b) (West 1996 & Supp. 2003) ("A prosecution for theft against one who obtained possession of the property lawfully and subsequently misappropriated it may be commenced within one year after discovery of the loss by the aggrieved party, but in no case shall this provision extend the time limitation... by more than 5 years.").

47. See, e.g., Del. Code Ann. tit. 11, § 205(d) (providing for prosecution of any crime based upon official misconduct by a public servant "at any time when [such person] is in public office or employment or within 2 years thereafter," even if the limitations period has already expired); Me. Rev. Stat. Ann. tit. 17-A, § 8(5)(B) (West 1964) (same).

48. See 2 Robinson, supra note 19, § 202(c), at 466–68 (describing statutory variations). Related to this discovery rationale are the statutes that extend the limitations period when a child has been the victim of the offense. See, e.g., N.Y. Crim. Proc. Law § 30.10(3)(f) (McKinney 1970) (providing that, in sexual offense cases in which a child is the victim, the period of limitation "shall not begin to run until the child has reached the age of eighteen or the offense is reported to a law enforcement agency or statewide central
Concerns of fair dealing are at the heart of other exclusions, under which the state policy balances fairness to the defendant with an eye to the public good. One example is Minnesota's qualification that its limitations periods "shall not include any period during which the alleged offender participated under a written agreement in a pretrial diversion program relating to that offense." Similar provisions are in effect in Ohio, Tennessee, and West Virginia. The overriding policy in these cases is apparent: Defendants who are benefiting from an opportunity to avoid facing criminal charges should not be permitted to avail themselves of that advantage in order to derail an otherwise timely prosecution.

The federal code and the statutes of forty-eight states contain statutes of limitations for most offenses other than murder. Although the range of limitations periods varies widely,
a rough estimation suggests that most states require felonies to be prosecuted within three to six years and misdemeanors within one to three years.\textsuperscript{54} A five-year limitation is enforced in noncapital federal prosecutions.\textsuperscript{55} The Model Penal Code outlined a four-part limitations framework: six years for the most serious felonies; three years for other felonies; two years for misdemeanors; and six months for petty misdemeanors or violations.\textsuperscript{56} The nearly universal proliferation of statutes of limitations lends considerable weight to an overall theme of balanced attention to the needs of effective law enforcement and the liberty of the accused.\textsuperscript{57} If the scales weighing this issue are tipped at all, they tilt in favor of the accused. Statutes of limitations “are favored in the law and are to be construed liberally in favor of the accused and against the prosecutor.”\textsuperscript{58} In 1970, Justice Harlan explained the primary rationale for favoring criminal defendants over their civil counterparts in terms of the greater social harm caused by an erroneous conviction:

In a civil suit between two private parties for money damages, ... we view it as no more serious in general for there to be an erroneous verdict in the defendant's favor than for there to be an erroneous verdict in the plaintiff's favor. ... In a criminal case, on the other hand, we do not view the social disutility of convicting an innocent man as equivalent to the disutility of acquitting someone who is guilty.\textsuperscript{59}

Ultimately, inducing effective prosecution dovetails with a concern for preventing erroneous convictions, and limitations policy targets both objectives: “Statutes of limitation are founded
upon the liberal theory that prosecutions should not be allowed to ferment endlessly in the files of the government to explode only after witnesses and proofs necessary to the protection of the accused have by sheer lapse of time passed beyond availability.60

B. The Impact of DNA Technology on Limitations Policy in Sexual Offense Cases

Sexual assault61 cases involving DNA matching are at the storm center of a reconsideration of the criminal justice system’s limitations policies. Driven by a vigorous social sense that rape “traumatizes its victims long after the attack,”62 prosecutors, victims’ rights advocates, and elected officials have campaigned for the extension or elimination of the limitations period for sex offenses.63 As one victims’ rights campaigner testified before Congress, “Because sex offenders pose a continuing danger to society, and because of the terrible and lifelong impact of sexual assault on victims, there should be no limitation on the

61. Unless the context specifies otherwise, this Article uses the terms “sexual assault” and “rape” interchangeably.
63. See Knight, supra note 62, at 11 (citing nationwide efforts to change existing statutes of limitations); see also Miguel Bustillo, DNA Tests Fuel Drive for Longer Rape Case Statute, L.A. TIMES, Feb. 29, 2000, at A3 (reporting a bill to be considered by the California legislature that would extend the limitations period by two years and eliminate it entirely in cases in which DNA evidence is available); Robert Tanner, DNA Evidence Pushes Legislatures Toward Dropping Statute of Limitations, DET. NEWS, Mar. 18, 2000, available at http://detnews.com/2000/nation/0003/18/03180110.htm (recognizing several states that have extended, or are reconsidering, their statutes of limitations for prosecuting rape and other violent crimes).
prosecution of such crimes.\textsuperscript{64} Unlike most criminals, rapists very frequently leave behind identifiable biological evidence, and thus the movement has initially focused on sexual assaults in which a sample of the suspect's DNA has been obtained.

Although the legal and cultural understandings of rape have significantly changed in the past generation,\textsuperscript{65} the prime motive force behind the current push to expand greatly rape prosecutions comes from the indelible nature of DNA itself and the recent technological innovations allowing for individual genetic profiling and, thus, viable prosecutions, many years after the fact.\textsuperscript{66} A corollary rationale posits the irrelevance of traditional defenses in cases in which DNA typing has made an identification.\textsuperscript{67} What does it matter if the "defendant's alibi witness[es] ha[ve] died after the statutory period if no reasonable jury could have believed the alibi in the face of the DNA proof'?\textsuperscript{68} Similarly, objections based upon the disappearance of documentation that might have suggested the accused's presence elsewhere and the inability to cross-examine any nonforensic prosecution witnesses who might have testified to the contrary are rendered equally impotent.\textsuperscript{69}

\begin{itemize}
\item \textsuperscript{64} On the Subject of the DNA Sexual Assault Justice Act of 2002: Hearing Before the U.S. Senate Judiciary Subcomm. on Crime and Drugs, at http://www.ncvc.org/press/speeches/dnatestimony.html (May 14, 2002) (statement of Susan Herman, Executive Director for the National Center for Victims of Crime); see also Bustillo, supra note 63 ("In statehouses across the country, pressure has been building to scrap statute-of-limitation laws in light of DNA testing that has pointed to suspects in cases where the limits on charges had long passed."); Tanner, supra note 63 ("With DNA solving crime after crime, some states are extending or dropping the statute of limitations on prosecuting rape and other violent offenses in case a genetic match that can prove who did it turns up decades later.").
\item \textsuperscript{65} See Cassia Spohn \& Julie Horney, Rape Law Reform: A Grassroots Revolution and Its Impact 22, 161 (1992) (describing the widespread replacement of statutes proscribing "rape" with those punishing sexual assault, sexual battery, or criminal sexual content, and reasoning that the altered nomenclature "would emphasize that rape is an assault and a crime of violence"); Stacy Futter \& Walter R. Mebane, Jr., The Effects of Rape Law Reform on Rape Case Processing, 16 BERKELEY WOMEN'S L.J. 72, 72–78 (2001) (describing the feminist advocacy that led to late twentieth century rape law reform).
\item \textsuperscript{66} See, e.g., H.R.J. Res. 36, 108th Cong. (2003) (noting that "because of recent advances in DNA technology, law enforcement agencies have the potential to identify the rapist in tens of thousands of unsolved cases" and that "aggressive prosecution can incarcerate rapists and therefore prevent them from committing further crimes").
\item \textsuperscript{67} See Edward J. Imwinkelried \& D.H. Kaye, DNA Typing: Emerging or Neglected Issues, 76 WASH. L. REV. 413, 472–73 (2001) ("[I]t could be argued [in such DNA cases] that any degradation in the defendant's ability to mount a defense would be harmless because it could not affect the outcome of the trial.").
\item \textsuperscript{68} Id.
\item \textsuperscript{69} See id. at 473 ("Many years later, the police officers and laboratory personnel involved could be impossible to locate, and the written records remaining might be inadequate to resolve these claims.")
\end{itemize}
“Deoxyribonucleic acid, or DNA, is a molecule that encodes the genetic information in all living organisms” and “carries biological information... from parent to offspring.” Although DNA typing was highly controversial for several years after its initial use as a forensic identification tool in criminal cases, the dispute over “the scientific validity of forensic DNA testing has largely dissipated.” According to the National Research Council, there is no remaining debate about the accuracy with which properly conducted DNA profiling can identify specific individuals. Moreover, DNA is both “invariant throughout... life” and recoverable virtually indefinitely.

A molecule of DNA is comprised of two nucleotide strands coiled around each other and connected by rungs, like a twisted ladder. The strands and rungs link thousands of small components which exist in a number of biochemical variations and are arranged differently for every individual except for identical twins.

United States v. Kincade, 345 F.3d 1095, 1096 n.2 (9th Cir. 2003) (citing Jones v. Murray, 962 F.2d 302, 303 (4th Cir. 1992)).
72. See Imwinkelried & Kaye, supra note 67, at 413–14 (“[DNA's] suitability for the courtroom was bitterly contested. Significant questions were raised in the popular press, books from scientific publishers, law reviews, and, of course, in trial and appellate courts.” (footnotes omitted)). DNA testing in criminal investigations was first used in 1986 in England. See JOE NICKELL & JOHN F. FISCHER, CRIME SCIENCE: METHODS OF FORENSIC DETECTION 201–02 (1999). In the United States, DNA evidence was first successfully used in a 1987 Florida rape case. See Andrews v. State, 533 So. 2d 841, 842 (Fla. Dist. Ct. App. 1988) (commenting that no existing case law addressed the admissibility of DNA evidence and describing it as “a new scientific technique”).
73. Imwinkelried & Kaye, supra note 67, at 414.
74. See COMM. ON DNA FORENSIC SCI., NAT'L RESEARCH COUNCIL, THE EVALUATION OF FORENSIC DNA EVIDENCE 2 (1996) [hereinafter NRC, UPDATE] (“The technology for DNA profiling and the methods for estimating frequencies and related statistics have progressed to the point where the reliability and validity of properly collected and analyzed DNA data should not be in doubt.”); see also FAIGMAN ET AL., supra note 70, § 11-2.0, at 697–705 (describing the structure of DNA, genetic differentiation, and the process of utilizing those differences to allow for individual identification). The statement in the text about the scientific consensus on the validity of DNA identification applies to the most commonly accepted forms of DNA typing. See id. § 11-1.2.1, at 671–72. A discussion of emergent DNA sequencing technologies is beyond the scope of this Article. See Imwinkelried & Kaye, supra note 67, at 458 (describing novel DNA techniques “ranging [from] the use of new genetic systems and new analytical procedures to the typing of DNA from plants and animals”).
76. See Paul E. Tracy & Vincent Morgan, Big Brother and His Science Kit: DNA Databases for 21st Century, 90 J. CRIM. L. & CRIMINOLOGY 635, 673 n.105 (2000) (noting that samples of DNA can remain viable for thousands of years if properly maintained);
DNA identification is currently admissible in virtually all state and federal courts. One serious controversy surrounding the introduction of DNA evidence involves neither its chemical structure nor its ostensible permanence. As is common with scientific proof, the core of the problem involves how the new procedure is actually conducted in light of the claims made on its behalf. Enthusiasts have dubbed DNA “the greatest single breakthrough in the fight against crime since fingerprints,” and the “single greatest advance in the ‘search for truth’... since the advent of cross-examination.” Far less attention has been paid to the manner in which DNA evidence is actually obtained and analyzed and to the factors leading to false or misleading forensic testimony in many sexual assault cases.

The impassioned declarations on the superlative qualities of DNA conflate two discrete issues: the theoretical infallibility of DNA identification and the practical impossibility that DNA collection, analysis, and testimony will always be conducted in accordance with proper scientific rigor. The widespread acceptance of the unerring nature of DNA technology is reflected in the recognition and approval the bench and bar have bestowed on this testimony. Courts have historically “treated [scientific] evidence more like magic than science,” and the reception of

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Sediment Cores Yield Oldest DNA Yet Discovered, ScientificAmerican.Com, at http://www.sciam.com/news_directory.cfm (Apr. 18, 2003) (“Researchers have retrieved from sediment cores plant DNA that is nearly 400,000 years old—the oldest such specimen ever recovered.”).

77. FAIGMAN ET AL., supra note 70, § 11-1.1, at 665 & n.2. For a useful overview of the process of DNA analysis, see Valdivieso, supra note 7, at 1012-29.

78. See Inwinkelried & Kaye, supra note 67, at 414 (observing that “more subtle issues of criminal procedure and evidence often arise when DNA is employed in the investigations and trials[,]...[but] many of these new matters have yet to be extensively litigated”).

79. Renskers, supra note 6, at 309 (quoting DNA Testing on the Increase, 131 SOLICITOR 1596 (1987)).


81. Even in the many cases in which DNA forensic analysis has led to the release of improperly convicted individuals, see generally Janet C. Hoeffel, The Dark Side of DNA Profiling: Unreliable Scientific Evidence Meets the Criminal Defendant, 42 STAN. L. REV. 465 (1990), the reports have emphasized the role played by DNA testing in establishing scientific validation of the impossibility of guilt. See generally id.; William Thompson, Actual Innocence: Lessons Learned From Incorrect Declarations of Matches, at http://www.bioforensics.com/conference04/Actual_Innocence/index.html (last visited Nov. 12, 2004) [hereinafter Thompson, Actual Innocence] (discussing cases in which false positives resulted in false convictions). Comparatively little attention is paid to the fact that some of those cases involved earlier, improper DNA testing resulting in the erroneous conviction.

DNA technology into courtrooms has repeated this historical error. Regarded as "in theory foolproof in identifying a suspect," DNA technology "has been used in thousands of homicide, rape and paternity cases—often with little challenge from defense attorneys." Recently, however, evidence has begun to mount that the application of DNA technology in laboratories and courtrooms often fails to conform to the demands of scientific methodology.

Still, the possibility that DNA evidence may unequivocally identify a rapist decades after the offense has led to calls for the elimination of statutes of limitations, because DNA's "near-perfect certainty" has rendered the concept of a limitations period "obsolete law." State legislatures have flocked to heed this call, and many have either eliminated or markedly extended their limitations periods in sexual offense and other cases, sometimes—but not always—conditioning the extension upon an event such as the victim's reporting the offense to the authorities or the recovery of a DNA sample from the crime scene. For example, Oregon has extended its statute of limitations for filing charges in serious sexual offense cases from six years to twelve if the defendant was identified after the original limitations period on the basis of DNA sample comparisons. Connecticut's new law

84. Id.
85. Refer to Part III.A, D infra (discussing issues of incompetence and corruption in laboratory analysis of, and courtroom testimony regarding, DNA samples).
86. Chapman, supra note 1; see Stephen G. Michaud, DNA Detectives, N.Y. TIMES, Nov. 6, 1988, § 6 (Magazine), at 70 ("The potential for 100 percent certainty makes [DNA] a singular forensic tool. The best that other techniques, such as serology and hair-analysis, can hope to establish is a 90 to 95 percent level of certainty, leaving room for reasonable doubt, and acquittal.").
87. Chapman, supra note 1; see Kim Kozlowski, Rape Victim: Change Laws so Criminals Can't Elude Arrest, DET. NEWS, May 30, 2000, at 6A (reporting desire to abolish limitations periods in sexual assault cases). DNA just puts us in a world where there is no more guesswork... DNA... doesn't forget. It doesn't forget if it's 10 years old, if it's 15 years old, if it's 20 years old. And so now that we live in a world where we collect DNA evidence, the statute [of limitations] is an anachronism. It no longer serves the purpose.

88. OR. REV. STAT. § 131.125(8) (2001). Delaware has extended the time within which a sexual felony prosecution must commence from five years to ten, "if based upon forensic DNA testing," DEL. CODE ANN. tit. 11, § 205(i) (2001). Taking a broad sweep, Delaware's new ten-year limitations period is not limited to sexual violations, but extends to the prosecution of any criminal action previously subject to a statute of limitations. § 205(b), (i).
extends the time frame for prosecution of specified sexual assaults to twenty years from the date of the commission of the offense, with two provisos: (1) the victim must have notified a police officer or state’s attorney of the rape within five years of its occurrence, and (2) the identity of the person who allegedly committed the offense must have been established through a DNA profile comparison using evidence collected at the time of the commission of the offense.99 Recent Arkansas legislation manifests faith in the development of ever more accurate forensic identification techniques and extends them a priori approval. The Arkansas state legislature elongated the limitations period in rape to fifteen years in cases in which the prosecution is “based upon forensic deoxyribonucleic acid . . . testing or other tests which may become available through advances in technology.”90

Other states have enacted potentially far more extensive enlargements of the limitations period. This type of legislation does away with absolute temporal finality, instead pegging the end date for prosecution to a specified time after DNA testing establishes the offender’s identity. California’s approach illustrates this trend: its new statute enlarges the limitations period in sex offenses from six years to “10 years from the commission of the offense, or one year from the date on which the identity of the suspect is conclusively established by DNA testing, whichever is later.”91 Oklahoma now allows serious

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89. CONN. GEN. STAT. ANN. § 54-193b (West 2001). In Oregon, a new amendment provides that

a prosecution for rape in the first or second degree or sodomy in the first or second degree may be commenced within 12 years after the commission of the crime if the defendant is identified after [the six years provided by the default statute of limitations] of this section on the basis of DNA (deoxyribonucleic acid) sample comparisons.

OR. REV. STAT. § 131.125(8).


91. CAL. PENAL CODE § 803(i)(1) (West 2001). The new statute adds two requirements: (a) for offenses committed before January 1, 2001, “biological evidence collected in connection with the offense [must be] analyzed for DNA type no later than January 1, 2004”; (b) for offenses committed on or after January 1, 2001, biological evidence must be analyzed “no later than two years from the date of the offense.” § 803 (i)(1)(A), (B). Kansas has adopted a similar statute, providing that prosecutions for specified sexual offenses “must be commenced within the limitation of time provided by the law pertaining to such offense or one year from the date on which the identity of the suspect is conclusively established by DNA testing, whichever is later.” KAN. STAT. ANN. § 21-3106(7)(a) (Supp. 2003).

Wisconsin’s rather more complex new statutory scheme crafts a potentially unlimited extension of time for commencing sexual offense prosecutions, conditioned on the following: within six years of the commission of the offense, if the state “collected biological material that is evidence of the identity of the person who committed” the crime and identified a DNA profile from the biological material, and if comparisons of that DNA profile to other profiles of known persons “did not result in a probable identification of the
sexual offense prosecutions to commence within three years of DNA identification, as long as the victim notified law enforcement within seven years of the discovery of the crime. Changes in Michigan statutes similarly afford extraordinary leeway to future criminal sexual conduct prosecutions:

If evidence of the [sexual conduct] violation is obtained and that evidence contains DNA that is determined to be from an unidentified individual, an indictment against that individual for the violation may be found and filed at any time after the offense is committed. However, after the individual is identified, the indictment shall be found and filed within 10 years after the individual is identified or by the alleged victim's twenty-first birthday, whichever is later.

In Michigan, therefore, police and prosecutors have an unlimited time to attempt to match a crime-scene DNA sample to a suspect, and, after a potential defendant is identified, they have ten years to file an indictment.

Other states have abolished their statutes of limitations in cases in which DNA evidence is used, in whole or in part, to identify the sex offender and in which the victim has reported the

person who is the source of the biological material," then the state may commence the sexual offense prosecution of the person "who is the source of the biological material ... within 12 months after comparison of the [DNA] profile relating to the violation results in a probable identification of the person." WIS. STAT. ANN. § 939.74(2d)(b) (West Supp. 2003).

92. OKLA. STAT. ANN. tit. 22, § 152(c)(2) (West 2003 & Supp. 2004). Prosecution, under Oklahoma law, is also dependent upon the collection and preservation of physical evidence capable of being tested to obtain a DNA profile and the identification of the offender through the use of a DNA profile using that evidence. Id.

93. MICH. COMP. LAWS ANN. § 767.24(2)(b) (West Supp. 2004). The statute defines "identified" as meaning that "the individual's legal name is known and he or she has been determined to be the source of the DNA." § 767.24(2)(c)(ii). Note that this statutory definition of "identified" is at odds with the understanding adopted in several jurisdictions that obtaining a DNA profile alone sufficiently identifies a defendant for statute of limitations purposes. Refer to Part II.C infra (discussing genetic marker warrants and indictments).

94. See MICH. COMP. LAWS ANN. § 767.24(2)(b). In similar fashion, New Jersey retained its five-year limitation period in aggravated sexual conduct cases, but provided that when the prosecution is supported by physical evidence that identifies the actor by means of DNA testing or fingerprint analysis, time does not start to run until the State is in possession of both the physical evidence and the DNA or fingerprint evidence necessary to establish the identification of the actor by means of comparison to the physical evidence.

N.J. STAT. ANN. § 2C:1-6(a), (c) (West Supp. 2004).
attack to a law enforcement officer within a prescribed time. Colorado’s statute typifies this trend:

In any case in which the identity of the defendant is determined, in whole or in part, by patterned chemical structure of genetic information, and in which the offense has been reported to a law enforcement agency . . . within ten years after the commission of the offense, there shall be no limit on the period of time during which a person may be prosecuted after the commission of the offense as to any [specified sexual] offense charged.  

Finally, some states have simply abolished the statute of limitations in sex offense cases, whether or not DNA evidence is available.  

Much more than a recalibration of limitations periods, these provisions constitute a striking reconsideration of the role of time limits in penal theory, driven by—but not restricted to—innovations in forensic science. In their new configuration, many of these statutes constitute a sublimation of the traditional balancing concept at the heart of limitations theory into a nearly exclusive reliance on the supposed probative guarantee of the new science. We can thus see the conversion of DNA, as well as

95. COLO. REV. STAT. § 16-5-401(a.5) (2003); see also FLA. STAT. ANN. § 775.15(1)(b) (West 2000 & Supp. 2004) (“[P]rosecution for a [specified sexual battery], if such crime is reported to a law enforcement agency within 72 hours after commission of the crime, may be commenced at any time.”); GA. CODE ANN. § 17-3-1(c.1) (Supp. 2003) (providing that prosecution for rape and other specified felonies may be commenced at any time when DNA evidence is used to identify the perpetrator and stating that there is no requirement that the victim report the crime to authorities within a specified time, but “a sufficient portion of the physical evidence tested for DNA [must be] preserved and available for testing by the accused”); MINN. STAT. ANN. § 628.26(a) (West 2003) (permitting sexual offenses to be brought “at any time after commission of the offense, if physical evidence is collected and preserved that is capable of being tested for its DNA characteristics”); NEV. REV. STAT. ANN. § 171.083 (Michie Supp. 2001) (providing for “[n]o limitation for sexual assault if written report filed with law enforcement officer during period of limitation”); TEX. CRIM. PROC. CODE ANN. § 12.01(1)(B) (Vernon Supp. 2004) (abolishing the limitations period for sexual assault prosecutions “if during the investigation of the offense biological matter is collected and subjected to forensic DNA testing and the testing results show that the matter does not match the victim or any other person whose identity is readily ascertained”).  

96. See, e.g., ALASKA STAT. § 12.10.010 (Michie 2002); ARIZ. REV. STAT. ANN. § 13-107(A) (West Supp. 2003); MISS. CODE ANN. § 99-1-5 (Supp. 2003); N.M. STAT. ANN. § 30-1-8(G) (Michie Supp. 2003). Vermont distinguishes between “aggravated sexual assault,” a crime that may be prosecuted indefinitely, and “sexual assault,” which must be prosecuted within six years. See VT. STAT. ANN. tit. 13, § 4501(a), (b) (Supp. 2003).  

97. See Steve Seidenberg, Time’s Running Out for Time Limits: More States Eliminating Statutes of Limitations for Some Crimes, ABA Journal eReport, Sept. 5, 2003, LEXIS (“The prosecution is at the crime scene right away, collecting evidence. The defense can only begin collecting evidence years later, when someone is charged with the crime . . . . So these laws give [prosecutors] a 10, 20, 40-year head start to collect evidence.”) (second alteration in original) (quoting Professor Albert Scherr)).
other forensic technologies both old and as yet uninvented, into evidentiary truth serums not prone to time's caprice. This overhauling of statutes of limitations is likely to continue.

Nor is this statutory trend limited to sexual offenses. Recent legislation has dramatically expanded the category of offenses excluded from the traditional limitations period on the basis of DNA identification. For example, in 2003, Utah amended its limitations statute to permit the commencement of a wide range of prosecutions for up to one year after a DNA identification of the perpetrator. In addition to serious sexual felonies, the offenses exempt from the ordinary limitations period in Utah include homicide, arson, criminal mischief, kidnapping, burglary of a dwelling, and robbery. Similarly, when Governor George Pataki called for reform of New York's statute of limitations, he did not limit the scope of his proposals to sexual assault crimes. Rather, he advocated eliminating the limitations period for a range of serious violent felonies, including first-degree rape, manslaughter, and assault. He articulated a vision of penal law in which statutes of limitation are seen as only obstructions in the way of securing a justly merited conviction:

"There is no statute of limitations on anguish. There is no statute of limitations on pain. If my bill becomes law, there will be no statute of limitations on justice here in New York . . . . Heinous and violent crimes, such as rape, leave the survivors with severe and long-lasting physical and

98. See N.J. STAT. ANN. § 2C:1-6(a), (c) (West Supp. 2004) (fingerprinting).
99. See ARK. CODE ANN. § 5-1-109(b)(1) (Michie Supp. 2003) (mentioning "other tests which may become available through advances in technology").
100. See Diehl, supra note 7, at 432 (predicting that more state legislatures "will be tempted to adapt their laws to facilitate the use of DNA evidence" as the technology continues to develop).
101. See Seidenberg, supra note 97 (describing the National Conference of State Legislatures' study reporting that, in 2000–2003, "seven states . . . eliminated their statutes of limitations for various crimes, and 13 [others] have either removed or tolled those statutes when DNA evidence is available to identify the culprit").
103. § 76-3-203.5(1)(c)(i)(A)–(P). Recent Indiana legislation also illustrates this trend. The traditional statute of limitations for all class B and class C felonies was five years. See IND. CODE ANN. § 35-41-4-2(a)(1) (Michie Supp. 2004). The legislature extended the limitations period until one year after the state, through the use of DNA, discovers the identity of the offender or could have discovered it with the exercise of due diligence. See § 35-41-4-2(b)(1), (2). The statute thereby exempts from the traditional limitations periods not only sexual offense felonies, but also all felonies punishable by a minimum sentence of two years or more. See IND. CODE ANN. § 35-50-2-1(c)(3), (4) (Michie 1998 & Supp. 2004).
105. Id.
emotional scars. Because the trauma suffered by victims can often last a lifetime, there should be no arbitrary time limit on seeking justice.\textsuperscript{106}

Securing retribution and redressing the victim encompasses, in this view, the entire penal raison d'être. There are no entries on the other side of the ledger: no concern for dimming memories or disappearing proof; no regard for the traditional wisdom that the need for prosecution generally fades over the passage of many years; no acknowledgment of the need to prod the human and technical machinery of the state to act in a timely fashion in apprehending and prosecuting wrongdoers; and fundamentally, no sense that statutes of limitations reflect society's desire to reduce the risk of erroneous conviction. The success of DNA typing in identifying sexual offenders may have served as the trigger for this statutory renovation, but the boundaries of this expansion have not yet been determined.\textsuperscript{107}

The current trend in statutory revision also appears to give diminishing weight to one major component of the rationale for limitations periods: the need for diligent, expeditious prosecution. The traditional view counseled that "statutes of limitations . . . aid the state in checking upon its officials by requiring vigilance on their part in discovering law-violators and bringing them to justice as speedily as possible."\textsuperscript{108} The drive to extend or eliminate statutes of limitations was sparked by the advent of accurate DNA identification.\textsuperscript{109} But some of the new statutes cater to a different DNA reality: the immense backlog of unexamined DNA data.\textsuperscript{110}

C. Indicting "John Doe, Unknown Male with Matching Deoxyribonucleic Acid (DNA) Profile"

Some prosecutors have been unwilling to wait for their state legislatures to reform the limitations periods on sex offenses. On

\textsuperscript{106} Id. (quoting George Pataki).
\textsuperscript{107} See A Penetrable Barrier, supra note 17, at 651 (concluding that "existing statutes seem to have been drafted with little consideration of the aims which the limitations should achieve").
\textsuperscript{108} Id. at 633; see Doggett v. United States, 505 U.S. 647, 657 (1992) ("Condoning prolonged and unjustifiable delays in prosecution would both penalize many defendants for the state's fault and simply encourage the government to gamble with the interests of criminal suspects assigned a low prosecutorial priority."); Adlestein, supra note 30, at 261-62 ("The Supreme Court's rationale for criminal statutes of limitations . . . uses[es] the sanction of preclusion to encourage law enforcement officials to promptly investigate and prosecute crime.").
\textsuperscript{109} Imwinkelried & Kaye, supra note 67, at 471.
\textsuperscript{110} Refer to notes 185-96 infra and accompanying text (discussing pressure on forensic analysts because of huge backlog of untested DNA samples).
September 1, 1999, a Milwaukee, Wisconsin prosecutor filed a "futuristic arrest warrant" for rape, charging "John Doe, unknown Male" with matching DNA profile at genetic locations D1S7, D2S44, D5S110, D10S28 and D17S79." The criminal complaint in that case was filed shortly before the expiration of the six-year Wisconsin statute of limitations. In order to "preserve rape cases that remain unsolved but threaten to be lost to the statute of limitations," similar warrants have been filed and indictments returned across the country against many John Does who are identified only by their DNA profiles.

111. Doege, supra note 4. An earlier but far less publicized indictment identifying a defendant solely by reference to his DNA profile was returned in Kansas in 1991. See Bernasconi, supra note 4, at 982 (describing a 1991 DNA arrest warrant obtained by a Kansas prosecutor in an effort to toll the existing five-year statute of limitations).

112. Doege, supra note 4; see also Glenn McGee, Wanted: John Doe, aka GATTACA (Oct. 21, 1999) (on file with Author) (describing the "John Doe" warrant). A copy of the criminal complaint is on file with the Author.

113. See Bill Dedman, A Rape Defendant With No Identity, But a DNA Profile, N.Y. TIMES, Oct. 7, 1999, at A1; Norman A. Gahn & Susan Bieber Kennedy, From John Doe to Known Offender: DNA Profile Arrest Warrants, SILENT WITNESS (Am. Prosecutors Res. Inst., Alexandria, Va.), Nov. 1, 2002, at http://ndaa.org/publications/newsletters/silent_witness_volume_7_number_1_2002.html. In that case, the police and prosecutor believed, based on the rapist's modus operandi, that the same man was responsible for three rapes. John Doe, D1S7, D2S44, D5S110, D10S28, D17S79, Charged with Rape, Feb. 2000 [hereinafter Interview with Norman Gahn], available at http://www.promega.com/profiles/303/ProfilesinDNA_303_08.pdf. The statute of limitations had run on the first two rapes, and the authorities decided to file the DNA warrant before the time for charging the suspect with the third rape expired. Id. At that time, the Wisconsin statute of limitations for rape was six years. WIS. STAT. ANN. § 939.74(1) (West 1996 & Supp. 2003). The law was amended in 2001 to provide that, if prior to the expiration of the six-year period, the state collected biological material that is evidence of the identity of the person who committed [a specified sexual offense], the state identified a [DNA] profile from the biological material, and comparisons of that [DNA] profile to [DNA] profiles of known persons did not result in a probable identification of the person who is the source of the biological material, the state may commence prosecution of the person who is the source of the biological material for violation of [a specified sexual offense] within 12 months after comparison of the [DNA] profile relating to the violation results in a probable identification of the person.


115. Id.; see also Valdivieso, supra note 7, at 1009–10 n.2 (citing DNA warrants filed in Wisconsin, New York, California, Pennsylvania, New Mexico, Kansas, Utah, Missouri, and Texas); Steve Aveson, DNA Used to Indict Suspect Before Statue of Limitations Runs in Rape Case (Mar. 18, 2000) (on file with Author) (describing the indictment of the "East Side rapist" in New York, which identified the defendant only by his genetic profile); Julian E. Barnes, East Side Rapist, Known Solely by DNA, Is Indicted, N.Y. TIMES, Mar. 16, 2000, at B1 (same); Michael Luo, Unnamed Man Indicted by DNA: Suffolk DA Charges Suspect in 6 South Shore Rapes, NEWSDAY, Aug. 9, 2000, at A03 (describing an indictment that provided no name, "instead listing a series of letters and numbers designating certain measurements of DNA segments that, taken together, represent the
This prosecutorial innovation aims "to aggressively pursue sex offenders by indefinitely preserving the ability to prosecute."\textsuperscript{116} In 2003, New York City Mayor Michael Bloomberg launched a city-wide "John Doe Indictment Project" targeted at the city's unsolved rape cases, on at least 600 of which the statute of limitations was about to run.\textsuperscript{117} These prosecutions seek legal justification by arguing that a DNA profile is a singular and sufficient way of identifying a defendant and that a timely charge so brought complies with the statute of limitations. The Wisconsin prosecutor who filed the 1999 "John Doe" warrant elaborated the rationale:

The [state statute on warrants] mandates that the warrant name the person to be arrested or, if the person's name is not known, designate the person to be arrested by any description by which the person can be identified with reasonable certainty. Since I believe that a [DNA profile] match provides proof beyond a reasonable doubt about the identity of the perpetrator, it certainly provides the "reasonable certainty" requirement for the warrant.\textsuperscript{118}

Although the issue is too recent to have received many court tests, DNA warrants have so far received judicial affirmation when challenged.\textsuperscript{119} In Wisconsin in 2003, an appellate court affirmed a kidnapping and sexual assault conviction in a case in which the complaint initially identified the accused only as "John Doe #12" with his DNA profile.\textsuperscript{120} The court ruled that the original complaint and the arrest warrant, which were officially produced three days before the expiration of the state statute of limitations, both satisfied the "reasonable certainty" identification requirements and complied with the statute of limitations.\textsuperscript{121} The court concluded that "a DNA profile is arguably the most discrete, exclusive means of personal identification possible."\textsuperscript{122} Such a holding is of a piece with the


\textsuperscript{117} Rebecca Porter, DNA Evidence Changes for Whom the Statutes Toll, TRIAL, Feb. 2004, at 12, 12; see Tavernise, supra note 116 (describing the "John Doe Indictment Project," a New York City effort "in which prosecutors, investigators and scientists seek to tie the most serious sex crimes to DNA profiles, and then file charges even before they have identified a suspect").

\textsuperscript{118} Interview with Norman Gahn, supra note 113.

\textsuperscript{119} See Bieber, supra note 114, at 1081–82 n.12 (describing lower court opinions in California and Wisconsin that sustained DNA warrants against constitutional challenge).

\textsuperscript{120} State v. Dabney, 663 N.W.2d 366, 369 (Wis. Ct. App. 2003).

\textsuperscript{121} Id. at 372–74.

\textsuperscript{122} Id. at 372.
rapid rise and increasing velocity of the legislative movement enlarging or repealing statutes of limitations in sex offense cases. With the arrival of DNA technology, the supposed certainty of genetic identification will almost always trump the arguments cautioning care before sanctioning procedural artifice in maintaining a sexual offense prosecution.

The argument on this issue pivots on whether the required "identification" at the time of filing charges must be capable of general understanding by the defendant and the community at large. DNA profiling may satisfactorily establish the accused's "identity" in a genetic sense. But detailing a numerical cluster of genetic characteristics, undecipherable without DNA analysis and expertise, cannot in any sense constitute adequate notice. Nor is it so intended. The proponents of these instruments do not pretend that the DNA profile conveys any notice to the offender. DNA warrants and indictments are designed exclusively "to prevent the relevant statutes of limitations from barring prosecution when and if investigators later identify the suspects."

However, the "central policy underlying statutes of limitation is timely notice to the defendant." Timely warrants and indictments serve this doctrine by apprising defendants "that they will be called to account for their activities and should prepare a defense." The U.S. Supreme Court has emphasized the similar purposes of civil and criminal limitations statutes, noting that both "represent a legislative judgment about the balance of equities in a situation involving the tardy assertion of otherwise valid rights: 'The theory is that even if one has a just

123. Refer to notes 88–103 supra and accompanying text.
124. See Interview with Norman Gahn, supra note 113 (commenting that the solving of old cases through DNA typing will "cause the public to see the value, and hopefully encourage state legislators to take notice and properly fund the crime laboratories").
125. "People can change their names, dates of birth and even their appearance, but they cannot change their genetic codes." Id.
126. See DNA Used to Indict Unidentified Rapist, NEWS & OBSERVER (Raleigh, N.C.), Mar. 16, 2000, at A7 ("A 'John Doe' indictment is legal if it contains a sufficient description of the suspect . . . . DNA certainly fits that bill." (quoting Professor H. Richard Uviller)).
127. Bernasconi, supra note 4, at 983; see Leslie Hoffman, N.M. Hopes DNA Saves Rape Cases, ALBUQUERQUE TRIB, Apr. 21, 2000, at A3 (describing the work of prosecutors in several states who are "trying to keep rape cases which are threatened by a statute-of-limitations violation alive by filing formal charges against unknown defendants who have left only their genetic fingerprints on sex crimes").
128. United States v. LaSpina, 299 F.3d 165, 179 (2d Cir. 2002); see also United States v. Gengo, 808 F.2d 1, 3 (2d Cir. 1986) ("[N]otice to defendants is at the core of the limitations doctrine.").
claim it is unjust not to put the adversary on notice to defend within the period of limitation." The rule at common law was straightforward: "a warrant for the arrest of a person charged with crime must truly name him, or describe him sufficiently to identify him." There can be no doubt that this principle regarded the concept of identification as both record keeping and notice providing. The Model Penal Code in 1956 expressed the then-unchallenged view that "the basic purpose of a statute of limitations is to insure that the accused will be informed of the decision to prosecute and the general nature of the charge with sufficient promptness to allow him to prepare his defense before evidence of his innocence becomes weakened with age." In order to satisfy the statute of limitations, a prosecution was deemed to have commenced upon either the finding of an indictment or the issuance of a warrant, "provided that such warrant is executed without unreasonable delay."

The newly minted DNA procedure, by contrast, merely aims to toll the statute in order to afford the State an unlimited time to "identify" the suspect. This method fails to provide the defendant with fair warning that he has been charged until after he has been arrested, which may occur many years after the


131. West v. Cabell, 153 U.S. 78, 85 (1894); see United States v. Jarvis, 560 F.2d 494, 497 (2d Cir. 1977) ("To comply with [Federal Rule of Criminal Procedure] 4(c)(1) and the fourth amendment the name or a particularized description of the person to be arrested must appear on the face of the 'John Doe' warrant."). Federal Rule of Criminal Procedure 4(b)(1)(A) provides, "A warrant must contain the defendant's name, or, if it is unknown, a name or description by which the defendant can be identified with reasonable certainty.")

Cf United States v. Doe, 703 F.2d 745, 747-48 (3d Cir. 1983) (finding a warrant describing its subject only as "John Doe a/k/a 'Ed'" insufficient on the grounds that there were thousands of individuals nicknamed "Ed" where the warrant was executed). The articulation of these principles predated DNA and could not possibly have anticipated the dilemma of a defendant's description that both "identify[s] with reasonable certainty," FED. R. CRIM. P. 4(b)(1)(A), and yet remains largely indecipherable to the defendant as well as to the general public. Interestingly, this issue never arose regarding DNA's forensic predecessor, fingerprinting, as apparently no warrant or indictment was ever obtained that identified the accused solely by his or her fingerprints. See Bernasconi, supra note 4, at 1014–16 (suggesting reasons why prosecutors have never obtained a "fingerprint" indictment).

132. MODEL PENAL CODE § 1.07 cmt. at 24–25 (Tentative Draft No. 5, 1956); accord 2 LAFAVE ET AL., supra note 54, § 18.5(a), at 424–25 (analyzing the purpose of statutes of limitations in reducing the likelihood of erroneous convictions).

133. MODEL PENAL CODE § 1.07(5).

134. See Frank B. Ulmer, Using DNA Profiles to Obtain "John Doe" Arrest Warrants and Indictments, 58 WASH. & LEE. L. REV. 1585, 1623 (2001) ("[Law enforcement officials] have all made it very clear that the sole reason for charging a "John Doe" with a specific genetic profile was to toll the statute of limitations . . . .").
crimes.\textsuperscript{135} DNA indictments and warrants are thus illicit end-runs around the requirement that an accused be provided with notice of pending charges in order to enable the preparation of a defense.\textsuperscript{136} Unlike information supplying a known alias, a physical description, or distinguishing data in common use such as a social security number, the publication of a person's genetic profile is so impossibly unlikely to alert that person that it seems reasonable to infer that notification of the accused is no longer a relevant factor. One final consideration suggests the logical incoherence of allowing DNA indictments to satisfy limitations statutes: Once this procedure is deemed acceptable, why would any prosecutor \textit{fail} to secure an indictment in every rape case immediately and routinely upon the completion of the genetic analysis? In this way, the prosecution would then have effectively rendered the statute of limitations a nullity.\textsuperscript{137}

\textit{Fortified with this review of the current issues in the interplay of a limitations period with evidence that theoretically admits of no limitations, you consider anew your client's case. Your client asserts his innocence in the face of the State's asserted DNA match. Could your client be factually innocent? How can you pierce the armor of DNA evidence? What might explain a DNA mismatch? The next Part of the Article examines our experience of human error and corruption in handling and presenting DNA evidence in court.}

\textsuperscript{135} See \textit{id.} at 1617–20 (criticizing DNA warrants for skewing the balance between the public and the accused to the prejudice of the latter); Bieber, \textit{supra} note 114, at 1080 (describing the view that a DNA warrant is "a disingenuous device of the prosecution that evades the statute of limitations and infringes on the constitutional rights of the accused"); Sean Gardiner, \textit{Clue in the Genes: At-Large Suspect Indicted in Rapes by DNA Sample}, \textit{NEWSDAY}, Mar. 16, 2000, at A05, \textit{available at} 2000 WL 10002320 ("[T]he John Doe indictment is a 'very creative way to circumvent the statute of limitations' but should not hold up under a court challenge. The purpose of the statute of limitations is not for the district attorney, it's for the accused...[t]o have an opportunity to prepare a defense." (quoting Gerald Lefcourt, former president of the National Association of Criminal Defense Lawyers)).

\textsuperscript{136} See Bieber, \textit{supra} note 114, at 1086 (commenting that DNA indictments would likely not give the accused sufficient notice of the charges against him "unless he actually knows his genetic profile").

\textsuperscript{137} See \textit{Battle Under Way on John Doe Warrant}, UPI, July 9, 2001, LEXIS, Nexis Library, UPI File (quoting attorney Lynn Ellen Hackbarth as worrying that "no statute[s] of limitation would run for any crime in which scientific evidence, such as fingerprints, is left behind"); Porter, \textit{supra} note 117 ("Charging a genetic profile is the same as repealing the statute of limitations in sex cases." (quoting Patrick Sullivan, a Minneapolis attorney with the Hennepin County public defender's office)).
DNA forensic procedures have attained the courtroom air of inerrancy. The "mystical spell" of DNA induces many to confuse the call for procedural rigor and sensitivity to human fallibility with a challenge to the underlying science of DNA. Some argue that because a defendant is not actually arrested under a DNA warrant "until his DNA is matched to the profile in the warrant," this procedure "foreclos[es] the possibility of mistaken arrest." This contention assumes that no untoward events have occurred that adversely impact the accuracy of the match. But it is the very evidence of these extraneous events that the passage of time renders increasingly hard to establish. The danger remains that "when DNA evidence implicates you, you are nailed, and a conviction is a foregone conclusion." Accurate representations about the scientific basis of DNA can become misleading when they imply that the introduction of DNA evidence not only assumes procedural regularity but also washes away the need to examine any corroborative or contradictory evidence.

138. McDonald, supra note 6, at 362; see also Edward J. Imwinkelried, Coming to Grips with Scientific Research in Daubert's "Brave New World": The Court's Need to Appreciate the Evidentiary Differences Between Validity and Proficiency Studies, 61 BROOK. L. REV. 1247, 1247 (1995) (citing the expressed fear that science is "a veritable sorcerer in our computerized society,' a sorcerer who can 'cast a spell' over the factfinder at trial) (quoting People v. Collins, 438 P.2d 33, 33 (Cal. 1968)).

139. Valdivieso, supra note 7, at 1046.

140. Id.

141. John Hinton & Michelle Johnson, Without Doubt: Evidence Piles Up, But the Jury Is Still Out on Value of DNA Testing, WINSTON-SALEM J., Feb. 18, 2001 (quoting Rob Warden, Director of the Center on Wrongful Convictions at Northwestern University School of Law), available at 2001 WL 3041086. Overstatements about the power of DNA are not the preserve of either prosecution or defense. For every prosecutor touting, "We have a foolproof test to use[,]" Rob Stein, Genetic Fingerprints: A Boon to Law Enforcement or a Rights Violation?, PA. L.J. REP., May 2, 1988, at 12, there is a defense attorney pouting, "If they print your guy with this stuff you're dead ... You can't combat it. There is no defense to it." Michaud, supra note 86, at 89.

142. See, e.g., Bieber, supra note 114, at 1089 (dismissing "the risk that important evidence will be lost over time" with resulting prejudice to the accused in a rape case where crime scene DNA is available, by observing that "DNA evidence is less susceptible to losing its probative value over time than other types of evidence"); C.J. Chivers, As DNA Aids Rape Inquiries, Statutory Limits Block Cases, N.Y. TIMES, Feb. 9, 2000, at B1 (referring to DNA evidence "with its virtual near lock in establishing guilt or innocence" (quoting Professor Stephen Gillers)). DNA evidence will indeed likely outlast all other evidence, but this proves only the relative permanence of genetic identity. See Bieber, supra note 114, at 1089 (noting that the evidentiary value of DNA does not degrade over time). It does not speak to whether the DNA in question has been properly collected, analyzed and maintained and whether accurate testimony will be given in connection with its presentation in court.
How carefully is DNA analyzed and preserved? DNA matching is regarded as well-nigh infallible as long as the sometimes microscopic quantity of DNA evidence is handled with the utmost care in order to achieve its vaunted accuracy in identification.\textsuperscript{143} Thus, you might expect to find that forensic laboratories are both highly motivated to excel and tightly regulated to comply with quality control standards and that errors are uncommon and promptly exposed and remedied. In all these assumptions, you would be mistaken. The record of DNA analysis and maintenance is littered with incompetence, fraud, and spoliation of the very lifeblood evidence entrusted to the laboratories and then brought into court.\textsuperscript{144} The quantum of misfeasance amply justifies the conclusion that “DNA analysis is...a human activity, subject to failures and insufficiencies and mishaps and arrogance.”\textsuperscript{145}

A. False Positive Identifications and High Laboratory Error Rates

False positive identifications, that is, invalid matches of DNA samples taken from the accused with samples purportedly retrieved from the crime scene, are an emerging source of erroneous convictions in sex offense cases.\textsuperscript{146} Early evaluations of DNA testing, both by commentators and in judicial opinions, incorrectly suggested that false positives or misreadings were not possible because “any defect in the sample or in the testing procedures will result in a complete failure to produce any

\textsuperscript{143} See McDonald, supra note 6, at 356–57 (“DNA samples recovered from crime scenes are often so small and in such disintegrated condition that they are easy to mishandle or manipulate.”).


\textsuperscript{145} Id.; see also JOHN F. KELLY & PHILLIP K. WEARNE, TAINTING EVIDENCE: INSIDE THE SCANDALS AT THE FBI CRIME LAB 234 (1998) (“The truth was that DNA, the cutting edge of biochemical genetics, the most sophisticated sci-crime weapon in history, was useless when grafted onto crime labs that cannot even keep their glassware clean.”); Seidenberg, supra note 97 (reporting views of DNA expert and law professor Albert Scherr that the estimated error rate in DNA testing is between one in fifty and one in a thousand); Thompson, Actual Innocence, supra note 81 (discussing the numerous occurrences of false positives both in proficiency tests and in real-life cases).

\textsuperscript{146} See Thompson, Actual Innocence, supra note 81 (discussing specific cases in which retesting exposed errors in DNA analysis that led to erroneous convictions); William C. Thompson et al., How the Probability of a False Positive Affects the Value of DNA Evidence, 48 J. FORENSIC SCI. 47, 47 (2003).
result.” But more recent sources recognize that, although mistakes are more likely to lead to false exclusions rather than false matches, lab error constitutes “the most likely place to get a false incrimination of an innocent person.” There are at least five explanations for a false positive DNA identification: (a) the real criminal had DNA matching the suspect’s at the tested loci; (b) forensic experts offered perjured or carelessly false testimony; (c) police failed “to properly consider the relevant

147. Renskers, supra note 6, at 316; see Andrews v. State, 533 So. 2d 841, 850 (Fla. Dist. Ct. App. 1988) (relying on expert testimony “that if there was something wrong with the process, it would ordinarily lead to no result being obtained rather than an erroneous result”); People v. Wesley, 533 N.Y.S.2d 643, 652 (County Ct. 1988) (“It is impossible under the scientific principles, technology and procedures of DNA Fingerprinting (outside of an identical twin), to get a ‘false positive.’”), aff’d, 589 N.Y.S.2d 197 (App. Div. 1992); Laurel Beeler & William R. Wiebe, DNA Identification Tests and the Courts, 63 WASH. L. REV. 903, 920–21 (1988) (“Environmental contamination, like an insufficient sample size, produces unreadable, but not unreliable, results, and thus produces no identification at all.”); Evan Kanter et al., Analysis of Restriction Fragment Length Polymorphisms in Deoxyribonucleic Acid (DNA) Recovered from Dried Bloodstains, 31 J. FORENSIC SCI. 403, 407 (1986) (“Erroneous results may be avoided with DNA analysis because degraded DNA does not produce any bands on an autoradiograph.”). 148. NRC, UPDATE, supra note 74, at 51.

149. Rachel Nowak, Forensic DNA Goes to Court with O.J., 265 SCIENCE 1352, 1354 (1994) (quoting criminologist William Thompson); see Jonathan J. Koehler et al., The Random Match Probability in DNA Evidence: Irrelevant andPrejudicial?, 35 JURIMETRICS J. 201, 213–15 (1995) (describing study finding that the introduction of separate random match probabilities and laboratory error rates had “little impact” on jurors’ inclination to convict based on their perception of the statistics, suggesting a relatively high potential for error); Eliot Marshall, Academy’s About-Face on Forensic DNA, 272 SCIENCE 803, 803 (1996) (citing experts who believe that the “odds of lab[atory] error . . . may be more significant than the odds of a chance DNA match”); Thompson et al., supra note 146, at 51 (describing the impact of false positiveidentifications); see also Jonathan J. Koehler, Error andExaggeration in the Presentation ofDNA Evidence at Trial, 34 JURIMETRICS J. 21, 23–24 & n.8 (1993) (listing examples of misleading and inaccurate testimony by prosecution expert witnesses regarding the reliability of DNA analysis). The myth of “no false positives in DNA testing” appears to be an example of expectations trampling truth, as lab errors leading to false positives were in fact revealed in the earliest proficiency tests of DNA profiling analysis. See Jennifer Mnookin, Fingerprint Evidence in an Age ofDNA Profiling, 67 BROOK. L. REV. 13, 51 (2001) (discussing the occurrence of false positives at one laboratory, Cellmark, during early proficiency tests). As Professor Mnookin concludes after reviewing such evidence, “Instead of being inherently impossible, false positives turn out to be a fact of life.” Id.

150. See Richard Lempert, After theDNA Wars: Skirmishing withNRCII, 37 JURIMETRICS J. 439, 444 (1997) (listing potential causes for erroneous positive matches).

151. Id.

152. Id. at 464–65 (expressing concern that analysts may be influenced by knowledge of the crime, inducing “carelessness or even corruption”); Ruth Teichroeb, Rare Look Inside State Crime Labs Reveals Recurring DNA Test Problems, SEATTLEPOST-INTELLIGENCER, July 22, 2004, at A1, http://bioforensics.com/news/DNA_testing_problems_7-04.html (observing that a false positive match is “a classic error that reflects a bias on the part of the analyst wanting to make a match” (quoting forensic scientist and crime lab auditor Janine Arvizu)).
suspect pool”;\textsuperscript{153} (d) the laboratory erred in labeling or analyzing the DNA samples;\textsuperscript{154} or (e) the police intentionally or accidentally contaminated or planted evidence.\textsuperscript{155}

DNA evidence “is only as good as the investigative and laboratory work that produces it.”\textsuperscript{156} The literature on forensic analysis is suffused with incidents of high error rates in proficiency testing,\textsuperscript{157} leading one researcher to conclude that “forensic lab performance is dangerously unreliable.”\textsuperscript{158} One component of this unsatisfactory track record consists of the generally poor training and minimal educational requirements of forensic analysts.\textsuperscript{159} In the view of Stephen B. Bright, director of the Southern Center for Human Rights, “So many of the people who give DNA testimony... went to two weeks of training by the F.B.I. in Quantico... and they are miraculously transformed from beat policemen into forensic scientists.”\textsuperscript{160}
The lack of certification or license requirements in the profession has also been cited to explain the shoddy performance of forensic laboratories.\textsuperscript{161} Forensic investigators have not developed general, national standards to assure competency.\textsuperscript{162} Sixty percent of the nation's crime labs, including those in New York City and Los Angeles, have not met the minimum accreditation standards of a voluntary association such as the American Society of Crime Laboratory Directors.\textsuperscript{163} Nor are forensic evaluators subject to any regulatory body that sets standards and oversee quality performance.\textsuperscript{164}

Protocols and quality control measures are essential to accurate scientific analysis.\textsuperscript{165} Yet forensic analysts not only frequently fail to adhere to established protocols,\textsuperscript{166} but also generally lack “meaningful quality control programs.”\textsuperscript{167} Mistakes in sample collection and handling can occur when investigators mislabel items of evidence or do not follow strict chain-of-custody formalities.\textsuperscript{168} Such errors may result in a laboratory testing the wrong sample, yielding incorrect results and perhaps even false matches.\textsuperscript{169} The National Research Council has recommended that collection and handling errors be prevented through proper

\textsuperscript{161} See Axtman, supra note 144 (reporting that the accreditation process remains voluntary in most states). “Of the 400 to 500 labs doing forensic work nationwide,” only 240 were accredited as of 2003; moreover, the accreditation process takes “time, effort, and plenty of money. Just preparing for it is often a three-year process.” Id.

\textsuperscript{162} See Jonakait, supra note 157, at 129.

\textsuperscript{163} Crime Labs Get Ignored and Criminals Go Free, USA TODAY, Aug. 22, 1996, at 12A. The American Society of Crime Laboratory Directors (ASCLD) has established the Crime Laboratory Accreditation Program as a “voluntary program[] in which any crime laboratory may participate to demonstrate that its management, personnel, operational and technical procedures, equipment and physical facilities meet established standards.” See Am. Soc'y of Crime Lab. Dirs/Lab. Accreditation Bd., About ASCLD/LAB, at http://www.ascldlab.org/dual/ascldlab/aboutascldlab.html (last visited Nov. 12, 2004) (describing the ASCLD’s Laboratory Accreditation Board).

\textsuperscript{164} See McDonald, supra note 6, at 357 (calling for Congress to create a national independent regulatory commission to “develop and implement strict standards for handling and testing DNA evidence”).

\textsuperscript{165} See Jonakait, supra note 157, at 156 (“Like good recipes, good protocols are tested procedures that, if followed, assure that the desired results are most likely to occur.”).

\textsuperscript{166} See id. at 156–57 (noting the practice in many forensic labs of not requiring the analyst to have or heed any printed protocol, or even to respect any instructions or warnings). “An absence of tested protocols means that crime lab analysts are left to determine for themselves what modifications in established procedures or what new procedures will best fit their abilities, their equipment, and the evidence.” Id. at 157–58.

\textsuperscript{167} Id. at 154; see McDonald, supra note 6, at 354–55 (“Current medical standards for diagnosing strep throat are more stringent than those for forensic laboratories testing DNA in criminal trials where lives hang in the balance.”).

\textsuperscript{168} See NRC, UPDATE, supra note 74, at 80–81.

\textsuperscript{169} Id. at 80.
training, strict observation of handling procedures, "second reading" reviews, and sample retesting. The retesting of genetic samples is perhaps the most-cited primary measure forensic labs should take in the effort 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. As one federal court has stated, "[A] wrongly accused person's best insurance against the possibility of being falsely incriminated is the opportunity to have the testing repeated." Forensic laboratories have a professional responsibility to preserve retained evidence so as to minimize degradation.

Contamination of DNA samples can also lead to erroneous results. Other human biological material may act as a source of contamination. This occurs when investigators accidentally introduce their own genetic material into the sample or when the sample itself is mixed during the commission of the crime or during sloppy handling by the forensic analyst. Contamination

170. In a "second reading," a second person reviews the results and analyzes them for potential errors. Id. at 81.
171. Id.
172. See id. at 87–88 ("The best protection that an innocent suspect has against an error that could lead to a false conviction is the opportunity for an independent retest."); Bieber, supra note 114, at 1089 (suggesting that the proper preservation of genetic evidence for independent testing ensures defendants the opportunity to challenge accuracy); Diehl, supra note 7, at 440 (advocating splitting specimens for retesting to protect defendants from possible laboratory error); David H. Kaye & Edward Imwinkelried, Forensic DNA Typing: Selected Legal Issues, A Report to the Working Group on Legal Issues, National Commission on the Future of DNA Evidence, part II.A.2.(c), (d), at http://homepages.law.asu.edu/~kayed/pubs/dna/ncfna-report2-000202.htm (Feb. 2, 2000) (noting that "a scientist who truly doubted the accuracy of the analysis normally would have retested the samples to resolve the matter [i,nasmuch as replication is a crucial and common feature of scientific inquiry").
173. See NRC, UPDATE, supra note 74, at 88.
175. FAIGMAN ET AL., supra note 70, § 11-2.5.2, at 716 n.109.
176. See id. at 716 ("[L]aboratories must retain, when feasible, portions of the crime-scene samples and extracts to allow reanalysis."); NRC, UPDATE, supra note 74, at 87 (recommending that an independent laboratory retest the sample).
177. See NRC, UPDATE, supra note 74, at 82–84 (stating that contamination, which occurs when a sample is mixed with a foreign material or substance, can result in test failures and false matches).
178. See id. at 83–84 (noting that both extraneous evidence collected from the background environment and sample handling by various people can result in inadvertent contamination). The classic example of a "mixed" sample is the vaginal swab taken from a
by extraneous human genetic material can lead to DNA typing errors, which may produce false results. As with handling errors, false results because of contamination can be minimized through rigorous adherence to protocols. Other types of mistakes include laboratory sample analysis errors, carryover contamination, and malfunctioning equipment or improper techniques. The frequency of errors may be reduced if forensic labs apply strict quality control procedures to the collection, handling, laboratory analysis, and case review of DNA evidence.

Another major problem associated with the availability of accurate DNA technology, which is needed to solve sexual assaults and other violent crimes, is the current extensive nationwide backlog of untested DNA samples. In response to the backlog, Congress enacted the DNA Analysis Backlog Elimination Act of 2000 to provide states with federal grants to carry out DNA analyses that will be entered into the Combined DNA Index System ("CODIS"), a DNA information bank operated by the Federal Bureau of Investigation (FBI). In a 2001 study,

rape victim that contains both semen and vaginal secretions. Id. at 84. Similarly, a sample may be mixed if there are multiple assailants or if the victim engages in consensual sexual activity prior to the attack. See, e.g., Cynthia Bryant, When One Man's DNA Is Another Man's Exonerating Evidence: Compelling Consensual Sexual Partners of Rape Victims to Provide DNA Samples to Postconviction Petitioners, 33 COLUM. J.L. & SOC. PROBS. 113, 115 (2000) (noting the possibility that sperm found on a vaginal swab could have resulted from consensual sex with another partner "around the time of the rape"); Hibbert, supra note 75, at 803 (observing that the higher frequency of error in forensic DNA analysis, as compared to medical DNA analysis, is partially due to DNA artifacts that are "degraded, highly contaminated, or even 'mixtures of samples from different individuals, as happens in a multiple rape'").

179. NRC, UPDATE, supra note 74, at 83.
180. See id.
181. See Hibbert, supra note 75, at 803 (emphasizing that even "pristine" crime scene artifacts can result in a faulty profile if they are improperly analyzed in the forensics laboratory).
182. NRC, UPDATE, supra note 74, at 84 (explaining that carryover contamination occurs when the substance used to amplify the DNA is introduced before the DNA sample is completely isolated, resulting in the amplification of not only the target sample but also the contaminant).
183. Id. at 82.
184. Id. at 87.
186. 42 U.S.C. § 14135(a) (2000). The legislation also provided that DNA analyses so funded would be "carried out in a laboratory that satisfies quality assurance standards." § 14135(d)(1). The law also provided for forced extraction of DNA samples from specified federal prisoners, parolees, and probationers. § 14135(a)(1)–(2). This portion of the law was declared unconstitutional in United States v. Kincade, 354 F.3d 1000 (9th Cir. 2003), on the ground that the intrusive nature of the compelled collection, in the absence of individualized reasonable suspicion, violated the Fourth Amendment's search and seizure
the Bureau of Justice Statistics found "that between 1997 and 2000, DNA laboratories experienced a 73% increase in casework and a 135% increase in their casework backlogs." The National Institute of Justice estimated in 2003 that as many as 350,000 DNA samples remain unexamined in homicide and rape cases nationwide. In addition, state crime labs are also inundated by the rapidly increasing number of convicted offender DNA samples. The National Institute of Justice has estimated that "the number of collected, untested convicted offender samples is between 200,000 and 300,000," with an additional 500,000 to one million such samples "owed, but not yet collected." The President's 2003 DNA initiative acknowledged that public crime laboratories are frequently "overwhelmed by backlogs of unanalyzed DNA samples," and that "these labs may be ill-equipped to handle the increasing influx of DNA samples and evidence."

Many samples remain untested for years because of the sheer inability of state laboratories to meet the demands that the large volume of DNA evidence places on them. Resolving the DNA sample backlog poses immense financial and personnel problems. "Without an increase in funding, crime labs may continue to represent overcrowded warehouses of potentially contaminated evidence." More genetic samples are collected

clause. Id. at 1113. In a subsequent rehearing, however, the Ninth Circuit realigned itself with other state and federal courts, holding that the "compulsory DNA profiling of qualified federal offenders is reasonable" and that the "DNA Act satisfies the requirements of the Fourth Amendment." United States v. Kincade, 379 F.3d 813, 839-40 (9th Cir. 2004).

187. ADVANCING JUSTICE THROUGH DNA TECHNOLOGY, supra note 185, at 3.
188. Id.
190. ADVANCING JUSTICE THROUGH DNA TECHNOLOGY, supra note 185, at 3. The report also noted that the FBI's laboratory has small backlogs in analyzing both types of DNA samples. Id.
191. Id. at 2.
192. Hibbert, supra note 75, at 799; see also NIJ Report, supra note 189, at 2 (citing a "significant backlog" of DNA samples caused by increased demand for DNA analyses "without a corresponding growth in forensic laboratory capacity"); Christopher H. Asplen, From Crime Scene to Courtroom: Integrating DNA Technology into the Criminal Justice System, 83 JUDICATURE 144, 146-48 (1999) (estimating that forensic laboratories face a six-year backlog of 1.3 million unanalyzed CODIS samples).
193. See Eric Slater, Rape Case DNA Tests the Limits: Milwaukee Uses Genetic Evidence to File Warrants in Unsolved Crimes: National Databank Is Overwhelmed by Samples, Underfunded and Undercoordinated, L.A. TIMES, Feb. 11, 2000, at A1 (describing lack of funding for state forensic laboratories); see also Tracy & Morgan, supra note 76, at 654-55 (arguing that the scarcity of resources available to most law enforcement agencies severely limits DNA's use as a crime-fighting tool).
194. McDonald, supra note 6, at 358-59; see also Hibbert, supra note 75, at 799
and deposited into state laboratories every day, although lack of funding has put the states behind in processing samples they already have.\textsuperscript{195} In an effort to address the issue, in 2003 the Bush Administration proposed a budget of one billion dollars over the next five years to eliminate the national DNA backlog, improve the quality of crime labs, and provide DNA-use training for law enforcement personnel in the criminal justice system.\textsuperscript{196}

The vast majority of crime labs are staffed and funded by state governments.\textsuperscript{197} The pressure of high DNA backlogs accentuates the normal job bias affecting many forensic analysts:

One of the problems that forensics experts cite with labs run by police departments is that they lack independence. The technicians who work in such labs can come to see themselves not as neutral fact-finders, but as "police in lab coats," as one knowledgeable source put it, whose aims are aligned with police investigators intent on pinning a crime on a suspect.\textsuperscript{198}

\textsuperscript{195} See Aveson, supra note 115 (describing the forensic lab predicament in New York State); see also Editorial, DNA Evidence Is Boon to Police, INDIANAPOLIS STAR, Apr. 27, 2002, at 14A ("Across the country, police labs are backed up and the greatest advance in the criminal justice system is a prisoner to the passage of time and the availability of resources."); Carlos Sadovi, DNA Taken After Rapes Sits Untested; State Crime Lab Can't Keep Up with Backlog Dating to 2000, CHI. TRIB., Dec. 7, 2003 (describing more than 1000 Chicago rape kits "languish[ing]" in police vaults, leading several women to try to raise private funds to have the evidence tested) available at 2003 WL 69402710.


\textsuperscript{197} See NIJ REPORT, supra note 189, at 2 (arguing that the shortage of trained scientists and personnel in state and local crime labs is partially due to the shrinking budgets of state and local governments); M.A. Thompson, Bias and Quality Control in Forensic Science: A Cause for Concern, 29 J. FORENSIC SCI. 504, 509 (1974) [hereinafter Thompson, Bias and Quality Control] (noting that a preponderance of forensic labs are located within and are closely aligned with the law enforcement branches of the states).

\textsuperscript{198} Testing Questions; HPD Crime Lab Measures Not Instilling Confidence, HOUS. CHRON., Feb. 4, 2003, at A40. The issue of bias in state-run crime labs is a longstanding and unresolved one. See, e.g., Thompson, Bias and Quality Control supra note 197, at 509–10.
The conclusion that forensic evaluators favor the prosecution is neither of recent vintage nor at all surprising. Forensic analysis “grew up in the criminal law. The exigencies imposed on it by police and prosecutors molded it into its contemporary shape.” Propossecution bias is evident at every stage of the forensic process. Evidentiary material is generally presented to the analyst “in a needlessly suggestive manner,” accompanied by police memos indicating the rationale for suspecting the guilt of a particular suspect. The expectation that the crime lab will cooperate with the investigation is often explicitly conveyed:

“[H]eads of [police] crime labs [sometimes] [report] that they have been told to find a certain result. Now that’s not strange, because the loyalty of the scientist is not to science there; it’s to his job. If he wants to be loyal to science, he better get a job somewhere else.”

Given the “understandable prosecutorial orientation” of many forensic evaluators, the risk of skewed judgment and results is great. This bias favoring conviction of targeted suspects is acknowledged both by defense and by law enforcement sources, as well as by forensic analysts

salary controlled by the State completely free from pressure, conscious or unconscious, to be entirely impartial?

Id. at 160.

199. Saks, supra note 82, at 1091. The milieu of a crime lab dictates the operant norms in terms of the result sought. See David Johnston & Andrew C. Revkin, Report Finds F.B.I. Lab Slipping From Pinnacle of Crime Fighting, N.Y. TIMES, Jan. 29, 1997, at A1 (“Scientists at the laboratory said they were often stifled in an operation run by nontechnical field agents who had little knowledge of science and who regularly altered reports to help prosecutors.”).

200. See Jonakait, supra note 157, at 160–62 (observing that the suggestive manner in which evidence is presented to forensic scientists by the police, along with the natural “prosecutorial orientation of many scientists,” results in examiners who might unconsciously believe the suspect is guilty and thus could arguably “skew subjective judgments” throughout the forensic process).

201. Id. at 160.

202. See Michaud, supra note 86, at 70 (second and third alterations in original) (quoting Professor Oliver C. Schroeder).


204. See Steve McVicker & Roma Khanna, DNA Find Sparks Call For Review: New Look at Policies in DA’s Office Urged, HOUS. CHRON., Mar. 11, 2003, at A11 (“One of the biggest problems of the Houston crime lab is that they were much more concerned with being a servant to the police and prosecutors than they were to science.” (quoting attorney Peter Neufeld of the Innocence Project at Benjamin N. Cardozo School of Law in New York)).

205. See Roma Khanna, HPD Chief Proposes Independently Run Crime Lab, HOUS. CHRON., Apr. 3, 2003, at A1 (“Should a complex evidence, like DNA, be presented solely by the prosecution or should it be processed by a neutral entity that is not employed by either side?”) (quoting Houston Police Chief C.O. Bradford)).

Private labs, operating under contracts with states and municipalities, similarly
themselves.\textsuperscript{206} At the far end of this bias spectrum, forensic testimony has often involved perjury and fraud committed by investigators seeking illicit convictions.\textsuperscript{207}

B. A Case Study: The Houston, Texas DNA Lab

The crime laboratory in Houston, Texas, the fourth-largest city in the United States,\textsuperscript{208} provides one conspicuous example of incompetence and corruption in DNA testing. The importance of this laboratory is highlighted by its location as the source for DNA testing for Harris County, Texas, the county with the highest death penalty conviction rate in the nation,\textsuperscript{209} "where an aggressive district attorney's office has sent more people to the death chamber than all but two states."\textsuperscript{210}

\begin{flushright}
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\textsuperscript{206}\footnotesize{See Editorial, Testing Questions: HPD Crime Lab Measures Not Instilling Confidence, HOus. CHRON., Feb. 14, 2003, at A40 (reporting claims of a “dangerous conflict of interest” when a private firm, Identigene, received an interim contract to perform DNA testing for the Houston Police Department (HPD) while the company was competing for a long-term contract). “With an economic interest at stake, Identigene workers similarly could see their role as backing up police suspicions with scientific evidence to help investigators make their cases and help Identigene win a lucrative HPD contract.” Id.; see also Joseph P. Fried, Prosecutors Move to Give DNA Evidence in Rape, N.Y. TIMES, Sept. 30, 1988, at B3 (“You are relying on one group of people [(expert witnesses supplied by Lifecodes Corporation)] who are guns for hire, who are paid to testify.” (quoting defense attorney Kerry J. Katsorhis, challenging the reliability of DNA evidence in a New York rape case)).}

\textsuperscript{207}\footnotesize{See generally 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 (1997) (discussing recent cases in which forensic scientists perjured themselves, faked laboratory reports, or both).}


\textsuperscript{209}\footnotesize{See Adam Liptak, Houston DNA Review Clears Convicted Rapist, and Ripples in Texas Could Be Vast, N.Y. TIMES, Mar. 11, 2003, at A14 [hereinafter Liptak, Houston DNA Review Clears Convicted Rapist] (“More defendants from Harris County, of which Houston is a part, have been executed than from any other county in the country.”).}

\textsuperscript{210}\footnotesize{Lianne Hart, Labs Woes Cast Doubt on 68 Prison Terms, L.A. TIMES, Mar. 31, 2003, at A19. The inmates for whom retesting was ordered in the wake of the Houston lab imbroglio included seventeen on death row. Id.; see also Roma Khanna & Steve McVicker, Fingers Pointed at HPD Crime Lab in Death Row Case, HOus. CHRON., Apr. 24, 2003, at A1 (“Attorneys for a death row inmate believe problems at the Houston Police Department crime lab may be the reason their client never received evidence that could have cleared him before trial.”).}
An independent audit by the Texas Department of Safety in December 2002 exposed widespread problems at the laboratory.211 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.212 The audit described "a host of problems with [the lab's] methods, including poor calibration and maintenance of equipment, improper record keeping and a lack of safeguards against contamination of samples."213 The crime lab's DNA section was shut down and a review ordered for hundreds of convictions.214 The DNA testing chief, Jim Bolding, "defended his eight-person staff, describing them as overworked and under-funded."215 Bolding then stated, "We do not have sufficient funding, staff or wherewithal to do the amount of work that has come into the crime laboratory."216 The crime lab's chief, Donald R. Krueger, stated that although he believed a DNA training manual existed at the lab, he was not positive.217 Although internal audits of the crime lab were
mandatory, the crime lab head stated that they “have not been performed in the last several years; we simply have not had that luxury.”

The training and qualifications of the forensic analysts at the lab were examined in the audit, which found that one DNA “technical manager” had not studied statistics or population genetics. The audit team’s task was made more difficult because of the DNA lab’s failure to “maintain records on the relevant qualifications, training skills and experience of all technical personnel.” After the team questioned the qualifications of four lab analysts and the continuing education of all employees, it concluded that the examiners failed to meet the educational requirements recommended by the FBI. The auditors “could not find transcripts to determine if two [of the DNA examiners] had received undergraduate degrees or if two other examiners had studied biochemistry, genetics and molecular biology.” All the DNA analysts had failed to attend at least “one training session on a matter related to their work in the last year.”

Testifying for the prosecution in a June 2002 sexual assault trial, the Houston DNA lab chief told the jury that his credentials included a doctorate in biochemistry from the University of Texas when in fact he had been academically dismissed before completing his degree. Finally, the city’s police chief admitted that the crime lab director was not “properly credentialed” and did not have a background in DNA testing.

The malaise and malfeasance at the Houston lab were staggering. In addition to the ceiling leak “need[ing] immediate

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Papers, Director Described Ongoing Problems, HOU. CHRON., Apr. 2, 2003, at A17 [hereinafter McVicker & Khanna, Crime Lab Chief Reveals Failings] (“The training manuals were one of the budget items developed . . . . To my knowledge the [DNA lab] had such a manual; or at least that is what everyone thought.” (second alteration in original) (quoting Donald R. Krueger, former crime lab chief)).

218. McVicker & Khanna, Crime Lab Chief Reveals Failings, supra note 217 (quoting Donald R. Krueger, former crime lab chief).

219. Id. (quoting the audit report).

220. Id.

221. Id.

222. Id.


attention," auditors found that DNA "cuttings and extracts in the storage freezers were not properly sealed." Criminology professor and former DNA analyst Richard Li explained, "The sealing of evidence after cutting is part of a chain of custody that is a very important concept in forensic science." Professor Li suggested that "such breaches could be indicative of more serious problems at the lab." Dr. Elizabeth Johnson, a DNA expert who once headed the Houston lab, also evaluated the current analysts' work: "Every single case I ever reviewed of theirs had at least one serious error—and sometimes more than one error." Dr. Johnson noted that the analysts were particularly deficient in "extracting DNA from mixed sources," such as separating vaginal cells from sperm cells: "No one seemed to be able to grasp how to do this correctly." "In one rape case, . . . a technician testified that a swab of the victim found semen, even though initial lab reports said there was no semen present." In other cases, Dr. Johnson reported that evidence that technicians had found "inconclusive actually exonerated the defendants." The line between incompetence and intentional misrepresentation was apparently often crossed. Dr. Johnson concluded that crime lab analysts frequently would vastly "exaggerate the probability of a defendant's guilt." She asserted that, in their expert testimony in DNA cases, the lab technicians

226. McVicker & Khanna, House Hearings on HPD Lab, supra note 211 (quoting the audit report).

227. Id. Professor Li added that sealing the evidence was "very essential . . . for preserving the integrity of the evidence." Id. The professional standards for preserving biological evidence are instructive:

Samples (particularly those containing wet stains) should not be packaged together, and samples should be dried or refrigerated as soon as possible. Storage in the dry state and at low temperatures stabilizes biological material against degradation.

FAIGMAN ET AL., supra note 70, § 11-2.5.2, at 716 n.108.

228. McVicker & Khanna, House Hearings on HPD Lab, supra note 211. For example, the audit also found that the Houston "lab does not use proper controls to monitor the precision of its procedures. One such control—the use of reagent blanks, a commonly accepted method of ensuring that tested samples are not contaminated—was routinely neglected . . . ." Id.


230. Id.

231. Liptak, Houston DNA Review Clears Convicted Rapist, supra note 209.

232. Id.

233. See Thom Marshall, Quick Job Needed to Free Innocent, HOUS. CHRON., Apr. 5, 2003, at A31 ("A large enough volume of incompetence adds up to corruption.") (quoting David Dow, a University of Houston law professor and director of the Texas Innocence Network, indicating that he is reopening approximately "100 cases handled by the network and involving convictions obtained through any type of evidence processed by the [Houston crime] lab").

234. Liptak, Houston DNA Review Clears Convicted Rapist, supra note 209.
"intentionally mislead,... [and] in all the cases I've been involved in [as a defense consultant], they always mislead in favor of a conviction. Dr. William C. Thompson, a criminology professor, "studied eight DNA cases processed by the Houston [lab and] found 'serious shortcomings in all of them.' Dr. Thompson also noted that the "likelihood that there are more innocent people convicted because of bad lab work is almost certain." In recent years, all Houston lab data was purged from both state and federal databases, and the FBI was even considering terminating the lab's access to the national database.

In addition to personnel problems, the substandard physical condition of the crime lab building could directly affect the integrity of the DNA evidence tested and preserved there. The roof leakage problem can cause contamination and/or deleterious change to the evidence. DNA degrades quickly when wet, and rainwater can easily cause cross-contamination and loss of DNA samples. The dilapidated condition of the physical structure was observed when the lab moved to its present location in 1997. Upon relocation it was discovered that a situation existed that allowed water to leak into the [DNA lab] from areas outside the Crime Laboratory. The potential contamination caused by these conditions does not allow the

235. See McVicker & Khanna, Lab Chief's Testimony in 3 Cases Questioned, supra note 216 (quoting Dr. Elizabeth Johnson).
236. Madigan, supra note 213.
237. Liptak, Houston DNA Review Clears Convicted Rapist, supra note 209; see Hart, supra note 210 ("People have lost confidence in the criminal justice system here. You almost have a picture of the Keystone Kops, but it's not funny because you're dealing with people's lives. There are bound to be people who are innocent and in jail." (quoting Texas State Rep. Kevin Bailey, head of a legislative committee investigating problems at the crime lab)).
240. See Roma Khanna & Steve McVicker, Mayor Knew of Lab Woes: Others Contradict Brown's Benign Assessment, HOUS. CHRON., Feb. 27, 2003, at A21 [hereinafter Khanna & McVicker, Mayor Knew of Lab Woes] (stating the opinion of a former Houston lab analyst that the water leaks at the lab "compromised the integrity of biological evidence stored in our facility").
241. Id.
242. See Khanna & McVicker, Bradford Knew of DNA Lab Problem, supra note 225 (noting that the leak "could cause DNA cross-contamination. DNA degrades rapidly in wet conditions. To remoisten a sample is a good way to lose evidence." (quoting William Thompson, a criminology professor who specializes in forensic science and who has reviewed the Houston crime lab's work)).
243. See McVicker & Khanna, Crime Lab Chief Reveals Failings, supra note 217.
[DNA lab] to meet the minimum standards ... to minimize contamination.\textsuperscript{244} An internal memo revealed a stopgap effort to lessen the contamination problem in 2002, noting that workers had "installed large plastic funnels in the ceiling in areas [of the DNA lab] that leak the worst."\textsuperscript{245} After receiving complaints from lab employees, City Councilwoman Carol Alvarado toured the facility in June 2002 and described the conditions she observed: "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."\textsuperscript{246} 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."\textsuperscript{247}

Nor were the lab's technical and procedural failings new. A 1996 audit had described the DNA lab's "management by crisis," prioritizing cases for analysis only after "eleventh hour" notification that cases were set for trial.\textsuperscript{248} The lab's director "played a 'virtually nonexistent' role in managing cases," and the lab's documentation was described as "inadequate and so vague that it 'precludes the lab from properly prioritizing cases and conducting appropriate analyses."\textsuperscript{249} As in most states, no agency

\begin{itemize}
  \item \textsuperscript{244} Id. (second, fourth, and fifth alterations in original) (quoting DNA Division Chief Jim Bolding).
  \item \textsuperscript{245} Id. (quoting then-lab director Donald R. Krueger in an interoffice memo).
  \item \textsuperscript{246} Karin Brulliard, Tex. Lawmakers Probe Lab over Reports of Tainted DNA Evidence, WASH. POST, Mar. 1, 2003, at A5 (quoting Carol Alvarado).
  \item \textsuperscript{247} Thom Marshall, Leaky Crime Lab Is Tip of Iceberg, HOUS. CHRON., Feb. 28, 2003, at A31. In her May 28, 2002 letter of resignation, Houston DNA analyst Jennifer LaCross described the lab as inhospitable to science:
    
    I feel that our laboratory is housed in a building that is more suited for condemnation rather than a place where sensitive scientific procedures are carried out . . . .
    
    [The] leaking of water has forced the employees on the 26th floor [where the DNA lab is located] to work in hazardous conditions. These hazardous conditions include uncontainable puddles of water, water leaking on to electrical wiring and lighting, and water leaking onto biological materials such as blood-soaked items. This water containment problem has at times, in my opinion, compromised the integrity of biological evidence stored in our facility.
  \item \textsuperscript{248} Khanna & McVicker, Mayor Knew of Lab Woes, supra note 240 (second alteration in original) (quoting letter of resignation from Jennifer Lacross to Houston Police Department Assistant Chief M.C. Simmons (May 28, 2002)).
  \item \textsuperscript{249} Id.
monitored the crime lab in Texas, and the state did not require its labs to seek accreditation. As outlined earlier, perhaps the most significant protection against DNA analyst error is the opportunity to retest the sample. However, when DNA was processed by the Houston crime lab, retesting was almost always impossible: "In most cases, [the crime lab technicians] used up all available evidence, barring defense experts from refuting or verifying their results." The lab's "frequent practice of using up every scrap of biological material" was carried out "either in clumsy attempts assaying it or in criminal attempts at covering up incompetence." Under these circumstances, it is difficult to imagine a more effective destruction of the ideal of providing the

250. See Axtman, supra note 144 (reporting that the lab "accreditation process remains voluntary in most states").

251. See Roma Khanna, HPD Chief Proposes Independently Run Crime Lab, HOU. CHRON., Apr. 3, 2003, at A1 ("[Texas] does not require labs to seek national accreditation."). The Texas legislature has recently taken the first steps toward a crime lab accreditation program. See TEX. GOV'T CODE ANN. § 411.0205(b) (Vernon Supp. 2004) (providing for the establishment of "an accreditation process for crime laboratories, including DNA laboratories, and other entities conducting forensic analyses of physical evidence for use in criminal proceedings"); TEX. CRIM. PROC. CODE ANN. § 38.35(d) (Vernon Supp. 2004) (providing that testimony regarding forensic analysis is inadmissible "in a criminal case if, at the time of the analysis or the time the evidence is submitted to the court, the crime laboratory or other entity conducting the analysis was not accredited by the Department of Public Safety"). Despite the above criminal procedure provision, testimony concerning forensic analyses conducted at an unaccredited laboratory is admissible if the laboratory "has preserved one or more separate samples of the physical evidence for use by the defense attorney or use under order of the convicting court." § 38.35(e)(1).

252. Refer to notes 171-76 supra and accompanying text (discussing the need for retesting of DNA samples to ensure reliability).

253. Liptak, Houston DNA Review Clears Convicted Rapist, supra note 209; see also Hart, supra note 210 (stating that the Houston lab's practice of using the entire DNA sample during initial testing was contrary to industry standards).


The Houston Police Department crime lab, in case after case, used up more physical evidence than experts say was necessary to conduct DNA tests, saving nothing for future tests that could exonerate or identify criminals.

The crime lab's practice long bothered defense lawyers, who said it forced them to rely on the prosecution's evidence and put them at a disadvantage in criminal trials. With the reliability of the lab's work now under scrutiny, the lab's practice is even more troubling.

The overconsumption of evidence has prevented people accused of sexual assault from conducting their own tests to see if the physical evidence supports their version of events rather than their accuser’s.
accused with a fair trial than a case in which identification is proven by DNA evidence.255

C. Convicted by a "False Positive"

The bizarre and sad saga of Josiah Sutton illustrates the perils of considering DNA in the abstract without regard to the gritty realities of contravening evidence.256 Unlike many of the defendants exonerated by the Innocence Project and related efforts that relied on DNA analysis to overturn convictions obtained in the pre-DNA era,257 Josiah Sutton was both convicted and then vindicated by DNA.258 His case thus provides a window into an emerging second generation of DNA litigation, encompassing cases in which erroneous results are the product of corrupt genetic testing, evidence preservation, and expert testimony.259

Josiah Sutton’s case began on October 25, 1998, when Priscilla Stewart reported to police that she had been taken in her car from her Houston apartment complex at gunpoint and raped by two young black males who then dumped her in a field.260 Stewart claimed that her rapists were each about five

255. See id. ("We’re of an opinion on the defense bar that someone . . . suggested to them to destroy the evidence so we couldn’t retest . . . . I’ve never had a case from the [Houston] lab where they saved anything for resampling. The only thing I had to review was their notes." (first alteration in original) (quoting Houston defense attorney James Stafford)).


258. See Roma Khanna & Alan Bernstein, Joyous Sutton Tastes Freedom, HOU. CHRON., Mar. 13, 2003, at A1 (reporting details of Sutton’s rape conviction based on faulty DNA evidence testimony from the Houston crime lab and Sutton’s subsequent release from prison after independent DNA testing confirmed his innocence).

259. See Thompson et al., supra note 146, at 47–54 (detailing recent cases involving false DNA identifications because of sample-switching errors, misinterpretation of test results, and false positives).

feet, seven inches tall. She described one as weighing approximately 120 pounds and wearing a skull cap during the incident. She described the other as weighing about 135 pounds and wearing a baseball cap with the bill turned toward the side. Five days after the attack, she noticed three black males walking in the vicinity of her apartment. One of these men, Gregory Adams, wore a skull cap; another, Josiah Sutton, wore a baseball cap with the bill turned to the side. Stewart identified Adams as one of her attackers, remarking on his distinctive walk, which she recalled from the incident. She identified Sutton as the other rapist, even though Sutton is six feet, one-half inch tall and at the time weighed more than 200 pounds.

Adams and Sutton were arrested. After DNA tests conducted by the Houston crime lab excluded Adams, the state dismissed the case against him and prosecuted Sutton for the rape. The prosecution discounted both the complainant's erroneous identification of Adams and her markedly inaccurate description of Sutton, relying instead on the genetic proof purportedly establishing that Sutton’s DNA profile could be “expected to occur in 1 out of 694,000 people among the black population.”

At trial in July 1999, “the only evidence offered against Sutton was the complainant’s eyewitness identification and the DNA test results.” The jury convicted Sutton of aggravated sexual assault, and he was sentenced to twenty-five years in


262. Id.
263. Id.
264. Id. at 2–3.
265. Id. at 3.
266. Id.
267. Id.
268. Id.
269. Id.
270. Id. (quoting the Houston Police Department’s Serology/DNA Unit report). “The [crime lab] analyst who testified in Mr. Sutton’s case said she had attended a two-week training course sponsored by the company that sold DNA kits to her laboratory.” Liptak, You Think DNA Evidence Is Foolproof?, supra note 2.
prison. Sutton filed a motion for a new trial, principally claiming that his trial attorney had provided him with ineffective assistance of counsel in failing to obtain an independent DNA test. At a hearing on that motion, trial counsel testified that he did not obtain the second test for two reasons: (1) Sutton’s family did not provide him with the funds needed to pay for the forensic analysis, and (2) such retesting was impossible because no unadulterated samples of the crime scene DNA remained after the Houston crime lab completed its testing. Although a DNA lab technician contradicted the attorney’s testimony by asserting that there were indeed unadulterated samples remaining for testing, the trial court denied appellant’s motion for new trial, and the court of appeals affirmed.

After a Houston television station contacted an independent forensic expert, the Sutton case began to take on an entirely new complexion. This private investigation and reexamination revealed that at Sutton’s trial, the DNA test results “were presented to the jury in a misleading manner that greatly overstated their value.” After testifying about the uniqueness of human DNA, the forensic technician told the jury that Sutton’s DNA pattern was found in three different samples obtained from the scene. Because the jurors were given no statistical elaboration of these findings, they “could reasonably have concluded . . . that Sutton was uniquely identified as a semen donor.” In fact, the probability of a coincident match to one of


275. Id. at *1–*2.

276. Id. at *1–*3. The appellate court found, under the first prong of the standard derived from Strickland v. Washington, 466 U.S. 668 (1984), that the trial court did not abuse its discretion in crediting trial counsel’s testimony to a matter of trial strategy, and thus trial counsel’s performance did not fall below an objective standard of reasonableness. Sutton, 2001 WL 40349, at *1–*3. The court also found, under Strickland’s second prong, that there was no showing of prejudice to Sutton. Id. at *2. Even though Sutton’s appellate attorney claimed that “independent DNA analysis in this case is very important to the entire case and the only viable defense available to defendant,” the court faulted him for failing to produce “any evidence of independent DNA analysis that would vindicate [Sutton] or raise questions about his innocence.” Id. at *2.

277. See Thompson, Review of DNA Evidence, supra note 256, at 1.

278. Id.

279. Id.

280. Id. at 1–2; see Khanna, DNA from Conviction of Teen Will Be Retested, supra
the suspects in this case exceeded one in eight African American males, rather than one in 694,000 as the crime lab technician had testified.\textsuperscript{281}

Not only did the forensic lab misstate the evidentiary weight of the DNA finding, it also failed to present the DNA evidence that would have excluded Sutton as one of the rapists.\textsuperscript{282} In sum, the procedures employed by the crime lab “fell well below accepted professional standards for quality scientific work.”\textsuperscript{283} Specifically, the forensic work revealed multiple problems: “inadequate characterization of samples, inadequate documentation of findings, failure to run important experimental controls (e.g., reagent or extraction blanks), failure to present allele tables, inadequate review of conclusions, and incorrect and misleading statistical computations.”\textsuperscript{284} Contrary to scientific protocols, but according to its normal practice, “the crime lab used all of the swabs in the rape kit to make a DNA profile of the rapist, [apparently] leaving the defense nothing to test.”\textsuperscript{285} However, independent investigators were able to locate a vaginal smear from the victim containing a microscopic amount of DNA, enough to allow a private lab to perform a new DNA test that showed Sutton could not have been the rapist.\textsuperscript{286} In January 2004, the DNA analyst whose erroneous findings formed the core of the prosecution’s case against Josiah Sutton was reinstated to her job at the Houston crime lab after successfully “arguing that any errors she made were the product of systemic problems at

\begin{footnotes}
\footnotetext{260}{“The testimony strongly implied that this was a unique match, that Mr. Sutton was the only person in the world that would have this DNA pattern, when really thousands and thousands would.” (quoting Dr. William C. Thompson)).}

\footnotetext{281}{See Thompson, Review of DNA Evidence, supra note 256, at 2–3.}

\footnotetext{282}{See id. at 1–2 (detailing DNA evidence that “taken as a whole provides strong evidence of Sutton’s innocence”).}

\footnotetext{283}{Id. at 2.}

\footnotetext{284}{Id.}

\footnotetext{285}{Kimberly, HPD Appetite for Evidence Assailed, supra note 254.}

\footnotetext{286}{See Khanna & McVicker, Retests of DNA May Free Convict, supra note 273 (criticizing the crime lab’s unnecessary use of all four vaginal swabs as against the industry practice of conserving evidence). Houston examiners made three attempts “to establish a ‘standard type’ for the victim’s DNA, which allows analysts to separate fluids from another person.” Roma Khanna & Steve McVicker, New DNA Test Casts Doubt on Man’s 1999 Rape Conviction, Hous. CHRON., Mar. 10, 2003, available at http://www.truthinjustice.org/sutton.htm. Routine DNA testing procedures normally establish a victim’s “standard type” on the first try. Id. Additionally, the crime lab “misidentified the source of a semen stain found in the back seat of the victim’s car.” Khanna & McVicker, Retests of DNA May Free Convict, supra note 273. “The lab concluded the stain contained a combination of DNA from Sutton, the victim and the second attacker,” but in fact “neither Sutton nor the victim’s DNA was present in that sample.” Id.}
\end{footnotes}
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the crime lab, not individual negligence.\textsuperscript{287} The lab itself remains closed because of the Sutton scandal and resulting investigation.\textsuperscript{288}

In sum, Dr. Thompson concluded that the forensic testimony in the Sutton case constituted "outright misrepresentations of scientific findings .... All of the errors seemed to conform to police theory in the case."\textsuperscript{289} Dr. Johnson's view of the forensic testimony was similar: "There [were] horrendous technical errors throughout the whole case, but even if you accept their results, then their interpretation of those results is still wrong."\textsuperscript{290}

Josiah Sutton, who was sixteen years old at the time he was arrested, served four and one-half years of his twenty-five year sentence before being released on bond in March 2003 pending the prosecutor's decision on whether to oppose the vacation of the conviction and the dismissal of the charges.\textsuperscript{291} In June 2003, Harris County District Attorney Chuck Rosenthal decided to join the request that Josiah Sutton receive a pardon.\textsuperscript{292} Finally, on May 14, 2004, Texas Governor Rick Perry pardoned Josiah Sutton on the basis of innocence upon the unanimous recommendation of the Texas Board of Pardons and Paroles.\textsuperscript{293} Governor Perry noted the trial court's finding of "clear and convincing evidence" that Sutton could not have committed the rape for which he was convicted.\textsuperscript{294}

Nor is Josiah Sutton the only documented victim of forensic malfeasance at the Houston crime lab. In October 2004, a


\textsuperscript{288} Id. DNA from approximately 380 successfully prosecuted cases are currently being retested by the Houston Police Department and the Harris County District Attorney's office. Steve McVicker & Roma Khanna, Independent Review Sought for HPD Lab: Chief Makes Call After the Discovery of More Case Files, Hous. Chron., Sept. 2, 2004, available at http://chron.com/cs/CDA/printstory.mpl/special/crimelab/2771764. In 2004, the HPD reopened the Serology/DNA department of the crime lab, now known as the biology section, but only for "biological stain identification." Kristen Mack, Accreditation for Crime Lab to Cost $1 Million, Hous. Chron., Mar. 8, 2004, at A13. The lab has made efforts to ensure the competency of its staff and hopes to earn national accreditation from the American Society of Crime Laboratory Directors Board before the end of the year. Id.

\textsuperscript{289} Madigan, supra note 213 (quoting Dr. William C. Thompson).

\textsuperscript{290} Id. (quoting Dr. Elizabeth Johnson).


\textsuperscript{292} See Roma Khanna, DA Supports Move to Pardon Sutton, Hous. Chron., June 28, 2003, at A1 (reporting that the Harris County District Attorney joined defense attorneys in urging the state governor to pardon Josiah Sutton).


\textsuperscript{294} Id.
Houston judge ordered the release of George Rodriguez, who had served 17 years upon a rape conviction largely predicated on testimony from a crime lab supervisor. District Attorney Rosenthal conceded that the forensic testimony leading to Rodriguez's conviction was "scientifically unfounded and inaccurate." The crime lab disaster has led to calls to halt executions of inmates from Harris County until the Houston Police Department can examine nearly 300 boxes of evidence that could be connected to death penalty cases. The crime lab's DNA division has been closed since December 2002 while evidence processed in hundreds of criminal convictions is retested. However, the retesting process has been disrupted by official mishandling and mislabeling, leading the District Attorney's Office to "consider[] criminal charges against analysts from the Houston Police Department crime lab who may have falsified information in an audit."  

D. Crime Laboratories: The Overworked, the Underfunded, the Prosecution-Oriented, and the Corrupt  

The chaos at the Houston DNA laboratory may be notorious, but it is far from the only DNA testing facility or other forensic crime lab to come under intense criticism for its faulty procedures and for yielding to the pressure to take shortcuts because of large backlogs and funding shortages. In many DNA
testing scenarios, "standards are often lax or nonexistent, technicians are poorly trained, and defense lawyers often have no money to hire their own experts." Moreover, incompetence and a pro-prosecution bias often go hand-in-hand to distort laboratory findings. This Part of the Article provides an overview of significant reliability and veracity issues in two state crime labs and in one federal lab as illustrations of the endemic and seemingly unavoidable problems in this area.

City, Montana, and Washington State have also come under fire for their lax standards and poorly trained technicians). The chaos in the Houston crime lab also extended to its toxicology section, which in October 2003 became the second division of the crime lab to be shut down after its supervisor failed a competency test and was suspended for the second time within a year. Roma Khanna, *HPD's Toxicology Lab Shut Down: Division Testing on Hold After Supervisor Fails Competency Exam*, HOUS. CHRON., Oct. 30, 2003, 3 Star Edition, at 1, available at http://www.chron.com/cs/CDA/ssistory.mpl/special/crimelab/219095. Local lawyers and judges expressed their belief that thousands of cases may have been adversely affected by the failings in the toxicology lab. See Nancy Holland, *More Cases in Jeopardy Due to Troubled HPD Crime Lab*, at http://www.chron.com/news/local/houstonmetro/stories/khou0031030_cc_hpdcrimelab.1ba5a00.html (Oct. 30, 2003). As was true with the DNA section, official concerns about the quality of the work of the toxicology lab, including complaints about chronic staff shortages, case backlogs, and inadequate sample preservation facilities, had been raised and ignored for months prior to the closing of the section. Associated Press, *Report: Concerns Raised Months Before HPD Lab Unit Closed* (Nov. 9, 2003), available at http://www.khou.com/news/local/stories/khou031109_ds_CrimeLab.3491c84f.html. The toxicology supervisor who was suspended for incompetency also managed the crime lab's narcotics division in addition to repairing scientific instruments, compiling records to comply with discovery requests, acting as the drug testing liaison, and serving as paymaster and timekeeper. Steve McVicker & Roma Khanna, *Early Lab Warnings Arise: Staff Shortage Caused Concerns Months Before Unit's Shutdown*, HOUS. CHRON., Nov. 9, 2003, 3 Star Edition, at 33.

301. Liptak, *Houston DNA Review Clears Convicted Rapist*, supra note 209 (reporting problems in DNA labs in Oklahoma City, Montana, and Washington State); see also Steve McVicker & Roma Khanna, *Case Gets 2nd Look After Lab Missteps: DNA Work, Police Tactic in Question*, HOUS. CHRON., May 4, 2003, at A1 (reporting problems at crime labs in Dallas and San Antonio, Texas); Jeff Mosier, *DA Widens Inquiry into FW Crime Lab: Ex-Employees Bring Forward New Allegations About Testing Reliability*, DALLAS MORNING NEWS, May 28, 2004, at 3B (reporting district attorney's office investigation into Fort Worth crime lab); John Solomon, *FBI's DNA Lab Subject of Probe*, TORONTO STAR, Apr. 29, 2003, at A12 [hereinafter Solomon, *FBI's DNA Lab Subject of Probe*] (reporting that "a police lab in Fort Worth, Texas, faces a criminal inquiry after revelations that a senior forensic analyst ignored proper DNA procedures"; that a state crime lab worker in Orlando, Florida falsified DNA data; and that "FBI officials also face questions about how to protect the bureau's DNA database from a growing number of problems at local police crime labs").

302. See Axtman, supra note 144 ("My sense is that this is a much more widespread problem than has been admitted ... There are incredible shortcuts that technicians have taken, sometimes out of laziness, sometimes out of zeal, and sometimes out of pure incompetence." (quoting Lawrence Goldman, president of the National Association of Criminal Defense Lawyers)); Steve Mills et al., *When Labs Fail, Defendants Pay: Bias Toward Prosecution Cited in Illinois Cases*, CHI. TRIB., Oct. 20, 2004, at C1 (reporting that "across the country, forensic science is being undermined by unproven theories and experts who testify in a misleading fashion").
In 1993, the West Virginia Supreme Court detailed the "systematic practice" of Fred S. Zain, the former director of West Virginia's state crime lab's serology division, of engaging in fraud and perjury over a number of years in reporting and testifying about lab results. In addition to detailing Zain's misconduct, the report investigated the conditions and procedures at the laboratory that had contributed to the environment facilitating the criminal conduct and inhibiting its detection.

303. In re Investigation of the W. Va. State Police Crime Lab., Serology Div., 438 S.E.2d 501, 502-03 (W. Va. 1993). The court described the extent of the fraud in the crime lab as "shocking and [as] represent[ing] egregious violations of the right of a defendant to a fair trial. They stain our judicial system and mock the ideal of justice under law." Id. at 508. The case that prompted the inquiry involved the conviction of Glen Dale Woodall of multiple felonies, including two counts of sexual assault, which resulted in a sentence of 203 to 335 years in prison. State v. Woodall, 385 S.E.2d 253, 253 (W. Va. 1989). Mr. Zain testified at Woodall's trial that "the assailant's blood types... were identical to Mr. Woodall's," and that this combination of blood types could "occur in only 6 of every 10,000 males" in the state. In re Investigation of the W. Va. State Police Crime Lab., Serology Div., 438 S.E.2d at 509 (alteration in original). "DNA testing ordered... in a subsequent habeas corpus proceeding conclusively established that [Woodall] could not have" perpetrated the crime. Id. The report commissioned by the West Virginia Supreme Court (and attached as an exhibit to the court's opinion) cited at least 100 instances in which Zain would "record[] on his worksheet results from enzyme test plates which appeared... to be blank." Id. at 502-03, 511. In those cases, Zain apparently testified that the lab findings were consistent with results of known samples from the defendants or the victims, thus inculpating the defendants. Id. at 512 & n.9. After Zain left the crime lab, some state prosecutors became dissatisfied with the work of the other lab analysts and "specifically requested that the evidence be analyzed by Zain," who thus continued to provide his services to the prosecutors. Id. at 512-13 n.16.

Zain also testified falsely in court regarding his academic credentials, specifically fabricating his attainment of a "minor" in chemistry in connection with his only degree, a Bachelor of Science. Id. at 515 n.27. The report remarked on Zain's "less than stellar" academic record, observing that the head of the state serology division had received an "F" in organic chemistry the first time he took the course as an undergraduate, improving to a "D" upon retaking the course. Id.

304. In re Investigation of the W. Va. State Police Crime Lab., Serology Div., 438 S.E.2d at 503. The report commissioned by the West Virginia Supreme Court detailed "the acts of misconduct on the part of Zain":

(1) overstating the strength of results; (2) overstating the frequency of genetic matches on individual pieces of evidence; (3) misreporting the frequency of genetic matches on multiple pieces of evidence; (4) reporting that multiple items had been tested, when only a single item had been tested; (5) reporting inconclusive results as conclusive; (6) repeatedly altering laboratory records; (7) grouping results to create the erroneous impression that genetic markers had been obtained from all samples tested; (8) failing to report conflicting results; (9) failing to conduct or to report conducting additional testing to resolve conflicting results; (10) implying a match with a suspect when testing supported only a match with the victim; and (11) reporting scientifically impossible or improbable results.

Id.

305. Id. at 503-04.
These “procedural deficiencies” included a familiar inventory of inadequate laboratory practices:

(1) no written documentation of testing methodology; (2) no written quality assurance program; (3) no written internal or external auditing procedures; (4) no routine proficiency testing of laboratory technicians; (5) no technical review of work product; (6) no written documentation of instrument maintenance and calibration; (7) no written testing procedures manual; (8) failure to follow generally-accepted scientific testing standards with respect to certain tests; (9) inadequate record-keeping; and (10) failure to conduct collateral testing.  

The West Virginia Supreme Court made it clear that “this corruption of our legal system would not have occurred had there been adequate controls and procedures in the Serology Division.”

In San Francisco, a 1994 sting operation uncovering the “faking” of results by a city forensic analyst led to a grand jury investigation, which concluded that conditions at the crime laboratory were so reprehensible that they seriously jeopardized the admissibility of DNA evidence in criminal trials. In 1999, the San Francisco Crime Lab was again the subject of a judicial inquiry, which found “disarray, especially at the administrative level,” and concluded that “little improvement has been manifested” since the grand jury report five years earlier. The superior court criticized Alan Keel, director of the San Francisco crime lab, for his insufficient credentials, his disregard of established protocols, his “degree of bias” against the defense, and his suggestion that DNA analysis was so basic that it could be “performed in a barn.”

306. Id. at 504.
307. Id. at 508. The supervisor of the state Criminal Identification Bureau's serology department testified that the state “ran the laboratory on a shoestring budget.” Id. at 514-15 & n.26.
308. See Martin, supra note 206 (reporting grand jury findings on the crime laboratory of the San Francisco Police Department); Peter Eisler, Calif.'s Crisis in a Word: O.J. Labs Point to Case in Their Campaign for More Funding, USA TODAY, Aug. 20, 1996, at 7A. The grand jury report found that the city's crime labs “crammed, hindered by dilapidated workbenches, safety equipment and lighting, and stocked with obsolete equipment, some of it 30 years old.” Martin, supra note 206. The 1996 report “also noted that the sole DNA analyst for the ... crime lab, who was fired in 1994 for taking 'short cuts' during forensic procedures,” had not been replaced. Id.
310. Id. at 14-15 & n.13.
Forensic laboratories at the FBI have also been tainted by scandal in recent years. The U.S. Justice Department's Inspector General opened an investigation in 2003 to examine "the FBI lab unit that analyzes DNA in hundreds of cases a year because a technician failed to follow proper procedure for two years, omitting "quality-control checks designed to keep foreign material from contaminating lab samples." This violation of testing protocols cast doubt on the accuracy of the results. FBI lab officials have had to notify 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. The current Inspector General investigation is the "broadest [official] review of the FBI lab since one concluded in 1997 that scientists in its explosive units engaged in bad science and gave inaccurate testimony." After that investigation, "the FBI notified local prosecutors in 3,000 cases . . . that [FBI] agents had misrepresented evidence, done sloppy work and sometimes lied." In May 2004, the Department concluded that FBI analyst Jacqueline Blake had committed "misconduct" in failing to follow DNA testing protocols. That same month, Blake pleaded guilty...
to a criminal charge of making false statements regarding her failure to follow protocol in approximately 100 DNA analyses.\footnote{Possley et al., supra note 10.} 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."\footnote{The FBI DNA Laboratory, supra note 317, at iii.}

The FBI's metallurgy lab has been criticized for utilizing flawed methodology in a National Research Council report that cites "examples of inconsistent or contradictory testimony by FBI experts in courtrooms."\footnote{John Solomon, Scientific Panel Concludes FBI Bullet Analysis Is Flawed, Associated Press (Nov. 22, 2003), available at http://www.detnews.com/2003/nation/0311/23/nation-331911.htm; see also generally NAT'L RESEARCH COUNCIL, FORENSIC ANALYSIS: WEIGHING BULLET LEAD EVIDENCE (2004).} The same FBI section has also had to deal with revelations of false testimony by its forensic technicians.\footnote{See Associated Press, New Allegations Target 2 FBI Crime-Lab Scientists, SEATTLE TIMES, Apr. 16, 2003, at A15 (relating incidents of false testimony by FBI scientist Kathy Lundy, who "knowingly gave false testimony in a 2002 pretrial hearing" concerning her bullet analysis), available at 2003 WL 3629264.} In a recent case, an FBI specialist in lead bullet analysis, who has now been indicted, admitted to committing perjury during her expert testimony in a murder case.\footnote{Id.} She claimed that her lying under oath occurred during a time when she "was stressed out by this case and work in general."\footnote{Id. (quoting FBI analyst Kathleen Lundy).} Nor is the scandal in the metallurgy lab limited to one incident of perjury.\footnote{Id.} According to the president of the National Association of Criminal Defense Lawyers, "The basic problem is that the FBI lab employees are people who think of themselves as law enforcement people as opposed to scientists."\footnote{Id. (reporting that a retired FBI metallurgist had "gathered evidence that FBI lab experts are stretching their conclusions beyond lab reports when they reach the witness stand").} Throughout the country, crime lab problems involving incompetent handling of forensic evidence, inadequate testing procedures at crime labs, and false swearing by analysts in connection with DNA evidence, are legion.\footnote{Dan Eggen, FBI Laboratory Moves to New Home: Quantico Facility Opens Today, WASH. POST, Apr. 25, 2003, at A21 (quoting Lawrence Goldman, president of the National Association of Criminal Defense Lawyers); see also KELLY & WEARNE, supra note 145, at 15–24 (describing the proprosecution bias of the FBI forensic laboratories).} A recent
WL 8395967 (reviewing numerous forensic lab errors and false testimony by forensic examiners).

A sampling of specific instances follows: Mills et al., supra note 302 (reporting on prosecution bias in Illinois state police crime lab); Mark Gillispie & Lila J. Mills, Suspended Crime-Lab Technician Lands a Job: Youngstown State Hires Him as Professor, PLAIN DEALER, Aug. 22, 2004, at A1 (reporting on numerous allegations of incompetence in the Cleveland crime lab, resulting in at least one exoneration of a defendant convicted by false DNA Testimony); Ruth Teichroeb, Oversight of Crime-Lab Staff Has Often Been Lax, SEATTLE POST-INTELLIGENCER, July 23, 2004, at A1 (reporting on on-the-job heroin use and lying about test results by forensic analysts in the Washington State Patrol crime labs); Eric Eckert & Ryan Slight, Crime-Lab Crisis Hurts Ozarks Drug Cases, SPRINGFIELD NEWS-LEADER, June 2, 2004, at 1A (reporting on Missouri crime lab technician suspected of stealing methamphetamine "from the samples he was in charge of testing and using the drug while at work"); Lewis v. State, 451 S.E.2d 116, 117 (Ga. Ct. App. 1994) (recounting the mislabeling of a DNA evidence locker); Becky Beaupre, Backlogged Labs Put Justice on Hold, USA TODAY, Aug. 20, 1996, at 7A (describing the attempted suicide of a man who had been incarcerated for a year for a rape he did not commit, the delay attributed to DNA lab incompetence and backlog); Case Closed: Mich. State Police Use DDC System to Solve Temp Problems (Direct Digital Control), AIR CONDITIONING HEATING & REFRIGERATION NEWS, Aug. 30, 1993, at 20 (noting that in the Michigan State Police Forensics Laboratory, twenty degree temperature swings every fifteen minutes caused instruments such as a $100,000 scanning electron microscope to rust and corrode); Tina Daunt, LAPD Blames Faulty Training in DNA Snafu Police: Officials Say Evidence Was Destroyed in Rape Cases Because Detectives Didn't Know About a Change in the Statute of Limitations, L.A. TIMES, July 31, 2002, at B3 (reporting that “the Los Angeles Police Department mistakenly destroyed biological evidence in 1,100 sexual assault cases,” with police officials blaming “the problem on their failure to properly train detectives on maintaining so-called rape kits” and recounting that “the district attorney's forensic science director complained that evidence in as many as 4,000 sexual assault cases in Los Angeles County might have been lost or destroyed by law enforcement over the last six years”); id. (“Not only does [the destruction of the DNA samples] impact thousands of women whose cases are unsolved, it also affects the innocent people who may have been convicted of crimes but now will not be able to prove their innocence.” (quoting Karen Polmer, a Los Angeles sexual assault victim who helped campaign for “lengthening the statute of limitations in rape cases”)); Bill Dedman, DNA Tests Are Freeing Scores of Prison Inmates, N.Y. TIMES, Apr. 19, 1999, at A12 (describing erroneous laboratory tests used to secure convictions, later reversed upon DNA testing); id. (“Everyone who’s ever been convicted on microscopic evidence ought to have their case reopened.” (quoting defense attorney Mark Barrett)); Editorial, Justice Delayed: Why Did It Take So Long to Run DNA Tests, SACRAMENTO BEE, Apr. 20, 2002, at B6 (describing one-week jailing and subsequent two-year delay in administering DNA tests that absolved two suspects of home break-in, in part because of “long backlog” at Sacramento crime lab); Eisler, supra note 308 (reporting that the DNA lab in Kern County, California is a refurbished dog kennel with such limited space that on one occasion evidence from a fatal hit-and-run case was stored in a men’s lavatory); Stephanie Hanes, Chemist Quit Crime Lab Job After Hearing, Papers Show, BALT. SUN, Mar. 19, 2003, at 9B (reporting that a former Baltimore County police chemist acknowledged that “she did not understand the science of her forensic tests and that her blood work in a death-penalty case was ‘worthless’”); Roma Khanna & Steve McVicker, Audits Turn Up Problems in DPS Labs: Scientists Criticize Accreditation System, HOUS. CHRON., Oct. 26, 2003, 2 Star Edition, at A1 (reporting on problems discovered in audits of regional labs of the Texas Department of Public Safety, including “evidence improperly sealed and inadequately identified to show who had handled it”; a “refrigerator half full of rape kits that was left at room temperature for days, risking deterioration”; and a “supervisor who had not taken a required statistics course, essential to interpreting and explaining DNA test results”); James Kimberly, Brown Has “Confidence” in Chief's Lab Investigation, HOUS. CHRON., Mar. 27, 2003, at A35 (reporting on criticism of Houston crime lab for its ballistics testing
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.”\textsuperscript{327} As forensic expert and law and criminology professor 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.”\textsuperscript{328}

Your attention now returns to your client’s case. You consider the difficulties inherent in forensic testing, not in terms of pure science but as compounded by structural and human problems involving an inundation of DNA samples for testing with inadequate funds, equipment and underqualified analysts. You ponder the proprosecution culture that infects so many of these laboratories. And you think again about the merit of limitations periods, seen now in light of the experience of DNA evidence frozen in time, but perhaps locked in with incompetence and corruption.

IV. REToolING STATUTES OF LIMITATIONS FOR THE WORLD OF DNA

DNA has been called the new science of fingerprinting, which produces infallible identifications.\textsuperscript{329} But DNA typing never renders

and noting that “in one case, a lab scientist admitted he fired a gun 25 times and used a solvent to clean the barrel in order to match it to a bullet recovered from a murder victim” and that “in another, the same scientist mistook a .22-caliber bullet for a .25-caliber bullet”); Glenn Puit, \textit{Police Forensics: DNA Mix-Up Prompts Audit at Lab}, LAS VEGAS REV.-J., Apr. 19, 2002, at 1B (reporting on a review of “hundreds of DNA tests at the Las Vegas police forensics lab following the discovery of a clerical error that placed an innocent man in jail for nearly a year”), available at 2002 WL 6873850; Rene Stutzman, \textit{Judge Rips FDLE Silence in Lab Flap: A Worker’s Cheating on a Test Could Affect a Seminole Murder Case}, ORLANDO SENTINEL, Aug. 3, 2002, at A1 (reporting on judicial criticism of the Florida Department of Law Enforcement’s cover-up of a “DNA lab-cheating scandal”); Del Quentin Wilber, \textit{Police Break DNA Machine with Overuse: Crime Law Chief Says City Needs More than One}, BALT. SUN, Apr. 18, 2002, at 3B (reporting that the “Baltimore police were unable to run DNA tests on evidence for three weeks recently after” overuse caused the lasers on the city’s $80,000 genetic analyzer to burn out).

327. Possley et al., supra note 10.
328. Teichroeb, supra note 152 (quoting Professor William C. Thompson of the University of California-Irving).
a precise match.\textsuperscript{330} No matter how overwhelming, DNA results are always expressed in terms of probabilities, not certainties.\textsuperscript{331} The myth that DNA analysis yields a positive identification has significantly altered the adversarial culture of the criminal justice system in sex offense cases.\textsuperscript{332} Many rape victims believe, thanks to DNA, that the hunt for their attackers should now continue forever, until the rapist is apprehended: "I can't believe my case will be closed when it's five years old . . . I think it should always be open, even after I die, until they find this person."\textsuperscript{333} Prosecutors expect DNA crime labs to provide definitive results, ensuring convictions.\textsuperscript{334} The business of DNA typing markets itself as a seller of certainty.\textsuperscript{335} Defense lawyers do not often seek to have supposedly incriminating DNA evidence retested because they, "like everyone else, have become so convinced of its infallibility that they don't bother to challenge it."\textsuperscript{336} Judges are so infatuated with forensic fervor, the belief that DNA analysis never fails, that they often refuse to authorize funds for an indigent defendant to have the DNA evidence reanalyzed, even when the attorney requests it.\textsuperscript{337} Innocent defendants are often intimidated into examination in which only forty-four percent of the examiners tested "were able to both correctly identify the five latent print impressions that should have been identified, and correctly note the two elimination latent prints that were not to be identified").

\textsuperscript{330} See Saks, supra note 82, at 1081 n.57 ("With the advent of DNA typing, ironically, forensic identification science has begun to be recognized as a probabilistic and less than completely certain endeavor.").

\textsuperscript{331} See id.

\textsuperscript{332} See Chivers, supra note 142.

\textsuperscript{333} See id. (quoting a rape victim referring to New York's five-year statute of limitations). It is possible, however, that an open-ended prosecution period may not serve therapeutic ends for the victim. Refer to Part IV.B infra (arguing that because the offender's eventual capture is not guaranteed, prolonging the victim's day in court may prevent her from ever reaching any sense of closure).

\textsuperscript{334} Refer to text accompanying notes 138–45 supra (discussing the false assumptions about the accuracy of DNA matching in light of the high rate of laboratory error); see also Dwyer et al., supra note 257, at 114 ([C]riminal investigations can become echo chambers, where answers are shaped by what people believe ought to be true rather than what they know to be the facts.").

\textsuperscript{335} See, e.g., Saks, supra note 82, at 1092 n.106 ("When there's no room for doubt. Let Genetic Design Perform Your Forensic DNA Analysis and Put an End to Uncertainty." (quoting an advertisement for a private DNA typing laboratory)).

\textsuperscript{336} Liptak, You Think DNA Evidence Is Foolproof?, supra note 2 (quoting Dr. William C. Thompson); see also Jonakait, supra note 157, at 168–69 & n.217 (explaining the tendency of defense counsel to trust the reliability of forensic testing). The aura of scientific infallibility can, of course, lead the unscrupulous to take advantage of the unaware. See Simon A. Cole, Suspect Identities: A History of Fingerprinting and Criminal Identification 274–81 (2001) (relating the 1992 discovery of an eight-year pattern of fingerprint fabrication by New York state police officers). In their confessions, the troopers acknowledged that, because fingerprinting was so thoroughly trusted, they chose to falsify that type of evidence so their fraud would go unquestioned. Id.

\textsuperscript{337} See Liptak, You Think DNA Evidence Is Foolproof?, supra note 2 (noting that
pleading guilty by the myth of forensic certitude. Confronted by false DNA evidence, many an accused would plea and go to prison rather than take a chance of going before a jury and getting slammed. Who, after all, wants to risk a “Trial by Certainty”?

Jurors are often in awe of a forensic expert whose underpinnings remain a mystery but whose conclusions they view as a “magic bullet” solving the crime: “After hearing maybe an hour or two of testimony about how sophisticated and accurate the testing process is, and all of the steps they’ve gone through by the lab personnel, without really understanding the concept of DNA, they understand the very simplistic notion that it’s a match.” The great success of the Innocence Project in demonstrating how accurate DNA evidence can establish the innocence of many defendants erroneously convicted has, ironically, enhanced the prestige of all DNA evidence used by retesting a challenged DNA sample can cost between $2000 and $4000); see also Cole, supra note 336, at 280 (stating that “courts are reluctant to authorize the expenditure of public funds for defense experts where other facets of the case indicate that the expenditure may be a waste of time” (quoting an unnamed New York special prosecutor)).

338. See In re Investigation of W. Va. State Police Crime Lab., Serology Div., 438 S.E.2d 501, 506-07 (W. Va. 1993) (mandating procedure for setting aside guilty pleas induced by false forensic testimony); Liptak, You Think DNA Evidence Is Foolproof?, supra note 2 (quoting Professor David Dow, director of the Texas Innocence Network, as saying, “When we used to review a case, if there was a DNA test done and a scientist testified there was a match, we wouldn’t take the case. There are certain assumptions all the players make. One is that when scientists in the crime lab test evidence, their testing is reliable.”); see also Roma Khanna & Dale Lezon, Brown Asks Hold on Some Death Penalty Cases; Also Seeks Justice Department Aid to Review DNA Evidence from Police Lab, HOUS. CHRON., Mar. 15, 2003, at A1 (reporting that in the wake of the troubles at the Houston crime lab, Houston Mayor Lee Brown asked U.S. Attorney John Ashcroft for Justice Department’s help in reviewing all cases involving DNA evidence tested by the Houston crime lab).


340. See generally Renskers, supra note 6.

341. McDonald, supra note 6, at 346-47 (explaining that DNA evidence became highly regarded in the judicial system because of its “dazzling potential of quick, clear and unmistakable criminal identification”); see also United States v. Addison, 498 F.2d 741, 744 (D.C. Cir. 1974) (“[S]cientific proof may in some instances assume a posture of mystic infallibility in the eyes of a jury . . . .”).

342. McVicker & Khanna, Lab Chief’s Testimony in 3 Cases Questioned, supra note 216 (quoting defense attorney Will Outlaw); see also Armstead v. State, 673 A.2d 221, 238 n.26 (Md. 1996) (“[J]uries are no more capable of understanding probability statements than they are of interpreting any other piece of highly technical information.” (quoting genetics scientist R. Lewontin, Letter, 372 NATURE 398, 398 (1994))).

343. See http://www.innocenceproject.org/about/index.php (last visited Nov. 12, 2004). The Innocence Project at the Benjamin N. Cardozo School of Law was created by Barry C. Scheck and Peter J. Neufeld in 1992. See Innocence Project, at http://www.innocenceproject.org (last visited Nov. 12, 2004). The “Project only handles cases where postconviction DNA testing [of evidence] can yield conclusive proof of innocence.” Id. To date, the Innocence Project has documented 149 exonerations for wrongly convicted defendants. Id.
prosecutors to obtain convictions. The greater the showing of DNA's capability to free the unjustly convicted, the more easily jurors can be fooled by fabricated evidence, shoddy testing, and perjury by DNA analysts. One of the jurors who voted to convict Josiah Sutton on the basis of the erroneous DNA analysis expressed his frustration after learning of the retesting that exonerated Sutton: "I feel very badly that we got used. We were led to believe that this was ironclad evidence and that the credentials of the people from the crime lab were impeccable."

A. A Counsel of Restraint

In this age of DNA, it is difficult to argue against the core sentiment that "lifting of the statute of limitations for violent felonies will insure that violent rapists and sex offenders are punished and the public is safer." But such a statement contains enough truth to be effectively misleading. Of course more rapists would be arrested and prosecuted were there no time limits on their cases. But society would pay a steep price for these additional convictions in three important ways. First, each person mistakenly incarcerated for rape represents one actual rapist allowed to remain at liberty. Second, along with the guilty, an unknowable number of innocent persons would be swept into the DNA net and left without the means to combat their microscopic accuser. Third, the judicial system is brought into disrepute when it is allowed to function corruptly. If DNA results were always correct and unerringly weeded the innocent

344. See Geoffrey Christopher Rapp, Book Note, DNA's Dark Side, 110 YALE L.J. 163, 168 (2000) (commenting that "juries may come to overvalue DNA evidence to convict defendants not indicted by other evidence" because of the widespread attention to the role of DNA evidence in exonerations of the wrongfully convicted); Liptak, You Think DNA Evidence Is Foolproof?, supra note 2 ("The exonerating power of DNA evidence reveals the unreliability of other forms of incriminating evidence.").

345. See Rapp, supra note 344, at 168 ("[W]hen juries place excessive faith in DNA, they make it more likely that planted evidence, corrupt DNA labs, and lab error could lead to unjust conviction."). Thus, while the "exonerating power of DNA evidence reveals the unreliability of other forms of incriminating evidence," that same force saps the potency of exculpatory evidence other than DNA itself. Liptak, You Think DNA Evidence Is Foolproof?, supra note 2.


347. Knight, supra note 62, at 12.

348. In New York State, county and state officials have commented that "removing the statute of limitations on crimes like rape will allow prosecutors to solve crimes that in the past would go unpunished" and that "there are a significant number [of] rapists who could be prosecuted if the statute of limitation was suspended." Id. (quoting Erie County District Attorney Frank Clark and State Assembly Republican Leader John J. Faso, respectively, who both supported an initiative to lift the statute of limitations for sexual assault crimes in New York).
from the guilty, then New York City Police Commissioner Howard Safir would be justified in asserting that "there is absolutely no legal or moral reason to have a statute of limitations for these [rape cases with DNA evidence collected]."

But this logic is deeply flawed.

Initially, recall that the search for suspects typically ends when a police crime lab establishes a DNA match, whether from a suspect already specifically targeted or from a DNA database sample. The police and prosecution mantra is simple: “[I]f you’ve got the DNA, you know it’s the guy.” But when botched DNA handling and testing has resulted in conviction of the wrong individual as the sex offender, then unless the rape allegation is a fantasy, the result of the prosecution is to allow the actual rapist to remain at large, safe from accusation and prosecution and free to rape other women. In the case of Josiah Sutton, the Houston teenager who served four and one-half years in prison for a sexual assault he did not commit, the man who actually raped Priscilla Stewart likely spent those same four and one-half years unscathed and unworried.

Second, the exhortation that DNA has made statutes of limitations irrelevant, or worse, impediments to justice, ignores both the possibility of forensic error and human corruption as well as the profound difficulties of uncovering and rectifying these untruths many years later. Consider a case in which the DNA samples “were switched or cross-contaminated in the laboratory or in the collecting and handling of the trace evidence before it reached the laboratory.” It might be possible to obtain relevant testimony and documentation within a reasonable time after the misfeasance. But “many years later, the police officers and laboratory personnel involved could be [deceased or] impossible to locate, and the written records” either destroyed or unamenable to reconstruction. Intentional tampering is, of

349. Chivers, supra note 142 (quoting Police Commissioner Safir).
350. See, e.g., Lempert, supra note 150, at 460 (observing that “investigations typically stop when police think they have the culprit”).
352. Refer to text accompanying notes 256–94 supra (discussing the Josiah Sutton case).
353. See Axtman, supra note 144 (“We were all told years ago that DNA was infallible and we wouldn’t have innocent people being convicted. Well, we forgot about human error and misconduct.” (quoting Texas State Representative Kevin Bailey, “who chairs a legislative committee looking into the Houston crime lab” scandal)).
354. Imwinkelried & Kaye, supra note 67, at 473.
355. Id.
course, extremely unlikely to be recorded. Although retesting may often be a reliable method for checking the accuracy of crime lab analysis, it becomes a useless remedy under several circumstances, including: when the original biological sample was entirely consumed, either out of ignorance of protocols or for a more malevolent reason, or when, because of accidentally or intentionally improper preservation, the original sample has degraded to the point where it is unusable.

Chain of custody issues illustrate another aspect of the untenable dilemma facing an accused challenging long-ago documentation. The general standard for admissibility of evidence is that it must be "in substantially the same condition as when the crime was committed." A perfect chain of custody is not a prerequisite to admission. Unless the defendant can point to evidence that specifically raises the issue of tampering, a presumption of regularity attaches to evidence that has been kept in official custody at all times, and any gaps "in the chain of custody... [go] to the weight of the evidence, not its admissibility." The proponent’s hurdle is quite low, demanding only "reasonable probability that the evidence has not been changed or altered." "Moreover, the integrity of such evidence is presumed to be preserved unless there is a showing of bad faith, ill will, or proof that the evidence has been tampered with." The rule is well-nigh universal: Defects in the chain of custody affect the weight of the evidence, not its admissibility.

356. See Diehl, supra note 7, at 437–38 (noting that the ability of an accused to demonstrate field or laboratory error may well depend on the recollections of those who handled the evidence and that the passage of time will make this task increasingly difficult); Imwinkelried & Kaye, supra note 67, at 473 (suggesting that although DNA evidence may not be dispositive of guilt if the accused can contest the reported results of the DNA tests, an evidentiary challenge to these results may not be viable years after the events in question).

357. Refer to notes 171–76, 226–29 supra and accompanying text (discussing the importance of retesting and proper sample storage).

358. United States v. Smith, 308 F.3d 726, 739 (7th Cir. 2002) (quoting United States v. Aviles, 623 F.2d 1192, 1197 (7th Cir. 1980)).

359. See United States v. Brown, 136 F.3d 1176, 1181 (7th Cir. 1998) (ruling that "lack of proof regarding a chain of custody does not render [the evidence] inadmissible"); United States v. Lott, 854 F.2d 244, 250 (7th Cir. 1988) (stating that "the government need not prove a perfect chain of custody for evidence to be admitted at trial").

360. See United States v. Rivera, 153 F.3d 809, 812 (7th Cir. 1998) (citing Brown, 136 F.3d at 1182); Brown, 136 F.3d at 1182 ("Merely raising the possibility (however hypothetical) of tampering is not sufficient to render evidence inadmissible.").


362. Id. (quoting United States v. Miller, 994 F.2d 441, 443 (8th Cir. 1993)).

363. See, e.g., United States v. Vallie, 284 F.3d 917, 920 (8th Cir. 2002) (finding DNA samples that were collected by the rape victim’s sister admissible because "any defect in the collection of the DNA evidence would have gone more to its weight than its
These traditional chain of custody rules were not designed with fungible and friable genetic evidence in mind, and they do not suitably apply to criminal litigation that pivots on DNA testing. Biological specimens such as semen or blood are not distinguishable to the naked eye, so precise labeling and faithful preservation of maintenance records assume a more critical role than in cases dealing with less easily interchangeable evidence. Although many controlled substances share the apparent fungibility of minute biological evidence, several reasons suggest that chain of custody concerns are often quite different. In more serious drug cases, the quantity of narcotics is large and thus easier to tag and retrieve from storage. Both the difficulty of the forensic analysis and the risk of spoliation (with the attendant impossibility for retesting) are far greater in sex offense cases involving DNA than in most narcotics prosecutions. And although the identity of the suspect is not involved in the forensic analysis of controlled substances, the defendant’s identity may be the sole issue involved in DNA testing in a sex offense prosecution. For these reasons, some courts and commentators have called for raising the threshold for admissibility of biological evidence.

When experience has shown that a particular type of important evidence may be problematic, the law’s ordinary response has been to emphasize the opportunity to adduce other evidence in the case, both direct and circumstantial, to corroborate or impeach the challenged proof. In this regard,
rape cases involving DNA analysis should be no different, and evidence challenging a crime lab's conclusion should be welcomed, whether the proof challenges the workings of the lab or consists of extrinsic evidence such as proof of an alibi. Because of the human tendency to shroud error and fraud in secrecy, the value of competing evidence should be viewed as particularly salutary. But many enthusiasts of this new forensic technique hold that DNA renders immaterial the traditional methods of attacking the identification of the defendant, such as impeachment of the eyewitness or presentation of an alibi through witnesses and corroborated by documentary evidence. Time's passage, along with the concomitant loss of evidence and

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known; the annals of criminal law are rife with instances of mistaken identification.

United States v. Wade, 388 U.S. 218, 288 (1966); see also Rimmer v. State, 825 So. 2d 304, 337 (Fla. 2002) ("[W]hile a great deal of credibility is given to eyewitness identification, empirical studies have shown that eyewitness identification can actually be extremely unreliable. . . . [A]pproximately fifty percent of those wrongly convicted were convicted based on eyewitness identification evidence." (quoting Connie Mayer, Due Process Challenges to Eyewitness Identification Based on Pretrial Photographic Arrays, 13 PACE L. REV. 815, 819 (1994))). To cope with the dubious nature of eyewitness testimony, the law has developed five ways to impeach a witness. See CHRISTOPHER B. MUELLER & LAIRD C. KIRKPATRICK, EVIDENCE UNDER THE RULES 501 (5th ed. 2004). Nonspecific methods of impeaching a witness include: (1) proving that the witness has some bias that would cause him to fabricate his testimony, (2) showing a defect in his mental capacity, and (3) showing that the witness is untruthful in nature. Id. Specific methods of impeachment include: (4) showing prior inconsistent statements by the witness, and (5) rebutting the witness with contradictory testimony or other forms of evidence to show that his testimony is simply wrong. Id.

367. See, e.g., Simon A. Cole, Witnessing Identification: Latent Fingerprinting Evidence and Expert Knowledge, 28 SOC. STUD. SCI. 687, 701 (1998) ("It is difficult to glean information about cases of error [in forensic science] because they rarely produce a public record, and the relevant organizations and agencies tend not to discuss them publicly.").

368. See People v. Wesley, 533 N.Y.S.2d 643, 644 (County Ct. 1988). DNA Fingerprinting . . . will revolutionize the administration of criminal justice. Where applicable, it would reduce to insignificance the standard alibi defense. In the area of eyewitness testimony, which has been claimed to be responsible for more miscarriages of justice than any other type of evidence, again, where applicable, DNA Fingerprinting would tend to reduce the importance of eyewitness testimony.

Id. In a 1995 rape prosecution in New York, the court evaluated contradictory evidence leading to a conviction. See People v. Rush, 630 N.Y.S.2d 631, 632 (Sup. Ct. 1995), aff'd, 672 N.Y.S.2d 362 (App. Div. 1998). When asked at trial to point out the rapist, the complainant "identified a spectator in the courtroom as her assailant." Id. But forensic testimony set out the probability of DNA from an individual other than the defendant matching the crime scene DNA as one in 500 million. Id. at 632. The court held that the jury was free to disregard the complainant's exculpatory identification of a courtroom spectator because the DNA evidence was by itself sufficient to support the conviction. Id. at 633–34. The court acknowledged that DNA analysis was not infallible, but insisted that "there can be little doubt . . . that the perils of eyewitness identification testimony far exceed those presented by DNA expert testimony." Id. at 634.
faded recollection, do not matter, because DNA never forgets and never errs. In the words of a state legislator, "The statute of limitations served a function, particularly in pre-DNA days, with worries about memories fading. DNA doesn't rely on memories. Those old arguments fade away when you have DNA."

Third, the legal system is mocked when false evidence is allowed to triumph. The distinction between the theory of DNA and how the reality of a crime scene sample is collected and analyzed represents the difference between a reliable justice system and one that perpetrates a fraud upon victims, the accused, and the public. Once that proposition is accepted, then time must matter. Time lapses may eradicate the only means for a defendant to challenge the prosecution's DNA evidence and to build his own case. Alibi witnesses may be dead or impossible to locate; the defendant's own recollection will likely be dimmed; and physical evidence, such as hotel bills, diaries, or ticket stubs, will likely have disappeared. Even if the defense is the consent of the victim, the passage of time may critically damage the opportunity to effectively present it. Ultimately, because the basis of any alibi defense is that the accused was not at the scene of a memorable crime but rather minding his own unmemorable business elsewhere, the more distant in time the event occurred, the harder it will be for a defendant to reconstruct his location and recall and summon witnesses who might verify his whereabouts.

Precisely because DNA does not deteriorate if properly preserved, the passage of time almost always weighs more heavily against the defense than upon the prosecution. Courts routinely uphold rape convictions based solely upon DNA evidence even when the identity of the accused is not otherwise

369. Tanner, supra note 63 (quoting Michigan State Senator William Van Regenmorter, head of his state's Senate Judiciary Committee).

370. See Kim Koslowski, Rape Victim: Change Laws So Criminals Can't Elude Arrest: She Says DNA Testing Should Put an End to Statute of Limitations, detnews.com, at http://www.detnews.com/2000/metro/0005/30/a06-65279.htm (May 30, 2000) (stating that innocent suspects "have no reason to keep a diary of what happened or remember where they were on the day in question"); see also Bernasconi, supra note 4, at 994–96 ("[T]he statutes [of limitations] protect defendants from an unfair trial by militating against prejudice caused by deterioration of evidence. This policy is premised, at least partially, on the theory that evidence inherently degenerates with the passage of time." (footnote omitted)).

371. See Bernasconi, supra note 4, at 999–1000 & n.131 (arguing that a defendant will find it more difficult to corroborate a legitimate consent defense with witnesses and other evidence after many years); Diehl, supra note 7, at 438 ("A defendant's ability to gather evidence, witnesses, and otherwise develop [a consent] defense generally will decay as time elapses.").
corroborated. Thus, the opportunity to cross-examine the complainant is of extremely limited value when the prosecution of the case is unaffected, even if the victim recalls nothing whatsoever about the defendant's identity. By the same token, the prosecution's burden is reduced the later the trial occurs, because the DNA evidence merely lies in storage and the forensic testimony will most likely be based on laboratory notes, not personal recollection. That prolonging the trial favors the prosecution raises another criticism against ending or extending the statute of limitations. What incentive does the State have to pursue the assailant with dispatch if the case may be tried a quarter-century hence as easily as or more easily than tomorrow?

B. Would Rape Victims Benefit from the Elimination of a Limitations Period?

One of the core assumptions of the movement to eliminate time limits for rape prosecutions is that such a measure reflects the desire of victims. But it is far from clear that extending the possibility of a rape prosecution indefinitely is either generally desired by rape victims or ultimately in their interest. True,

372. See, e.g., People v. Soto, 35 Cal. Rptr. 2d 846, 847–48 (Ct. App. 1994) (upholding conviction when victim was unable to identify her assailant because he wore a mask during the attack); People v. Rush, 630 N.Y.S.2d 631, 631–32, 634 (Sup. Ct. 1995) (upholding conviction when complainant identified courtroom spectator as her rapist, contradicting her previous lineup identification of the defendant); King v. State, 91 S.W.3d 375, 377, 383 (Tex. App.—Texarkana 2002, no pet.) (upholding conviction of defendant whose victim was blindfolded during attack and could make no identification); Roberson v. State, 16 S.W.3d 156, 159–60 (Tex. App.—Austin 2000, pet. ref’d) (upholding conviction when victim was unable to identify defendant because a blanket had been placed over her head); Springfield v. State, 860 P.2d 435, 438, 448–49, 453 (Wyo. 1993) (upholding conviction even though the complainant, unable to make an identification, testified that the defendant “resembles him”).

373. See, e.g., Jenkins v. State, 627 N.E.2d 789, 792–94 (Ind. 1993) (stating that “the right to confrontation [of witnesses] is not absolute” and permitting the use of laboratory notes under the business record hearsay exception where a laboratory supervisor testified in lieu of the technician who actually performed the DNA analysis).

374. See Diehl, supra note 7, at 433–38 (outlining the disadvantages to the defense when the statute of limitations is prolonged or eliminated, including diminishment of the defendant’s ability to prove that the evidence was mishandled or that laboratory errors occurred and noting that “with time, memories fade, evidence is misplaced, [and] witnesses become harder to locate”).

375. See Chivers, supra note 142 (interviewing several rape victims who oppose time limitations to the prosecution of their cases). See generally DANIEL W. SHUMAN & ALEXANDER MCCALL SMITH, JUSTICE AND THE PROSECUTION OF OLD CRIMES 101 (2000) (noting that a commonly expressed belief is that prosecution of crimes—even old crimes—is therapeutic for a victim, giving them a sense of relief and closure).

376. See Lynne N. Henderson, The Wrongs of Victim’s Rights, 37 STAN. L. REV. 937, 976–77 (1985) (noting that extending deadlines is not necessarily in the victim’s interest because of the possibility of the victim having to relive the event). A large and growing
many victims of rape have campaigned for elimination of limitations periods, vowing that rapists deserve never to be free from prosecution for their heinous act. But some advocates for rape victims worry that prosecuting sexual assault cases years later may force women who have put the past horror behind them to relive their trauma once again. Prosecutors who seek to revive a sexual assault accusation from many years earlier are learning that many victims "have never told their current partners or families of their experience." The criminal justice coordinator for New York City's mayor observed that prosecuting an old rape case means "asking the victim who may have closed the psychological book on the case to open the book . . . . Sometimes it's too painful a thing to ask."

As a question of psychological and social policy, there is insufficient research to determine whether the possibility of an endlessly delayed prosecution will help the victim see herself as strong in seeking retribution, or hurt the victim by never allowing her to achieve closure. One study of long-delayed

number of scholars are questioning whether the increased focus on "just deserts" in criminal prosecutions accords with victims' desires or interests. See Shuman & Smith, supra note 375, at 101–12 (suggesting that the relationship between crime prosecution and victim recovery is highly problematic); Russell L. Christopher, Deterring Retributivism: The Injustice of "Just" Punishment, 96 Nw. U. L. Rev. 843, 924–52 (2002) (arguing that retributivism uses crime victims as "mere means"); Henderson, supra, at 964–65 ("Common assumptions about crime victims—that they are all 'outraged' and want revenge and tougher law enforcement—underlie much of the current victim's rights rhetoric. But in light of the existing psychological evidence, these assumptions fail to address the experience and real needs of past victims." (footnote omitted)); Deborah Kelly, Victim Participation in the Criminal Justice System, in Victims of Crime: Problems, Policies, and Programs 173, 175 (Arthur J. Lurigio et al. eds., 1990) [hereinafter VICTIMS OF CRIME] (suggesting that the increased victim participation was not driven by "a newfound compassion for victims," but rather stemmed from an instrumental concern of the legal institutions themselves); Heather Strang & Lawrence W. Sherman, Repairing the Harm: Victims and Restorative Justice, 2003 Utah L. Rev. 15, 15 ("One of the leading arguments for restorative justice is the abandonment of victims' interests by the jurisprudence of retribution."); Richard P. Wiebe, The Mental Health Implications of Crime Victims' Rights, in Law in a Therapeutic Key: Developments in Therapeutic Jurisprudence 225 (David B. Wexler & Bruce J. Winick eds., 1996) (noting that victims' desire for justice or vengeance "may interfere with recovery if left unresolved").

377. Refer to note 333 supra and accompanying text (describing a rape victim's belief that because of DNA testing, rape cases should not be closed until the perpetrator is found).


380. Id.

381. See Shuman & Smith, supra note 375, at 108–09, 111–12 (stating that there is a lack of research into whether prosecuting old crimes is therapeutic for victims by allowing them to confront the wrongdoer and affirm that they were wronged).
prosecutions has concluded that we do not know what happens to victims of crimes that remain unprosecuted for many years or decades. . . . Although it would be comforting to think that a courtroom confrontation of the assailant who committed an unspeakable crime many years ago is likely to help heal an open wound, we cannot be confident that this delayed confrontation will not have the opposite effect and undo whatever healing has occurred. There are questions here as to whether permitting the prosecution of old crimes will increase the likelihood that an essential element in a victim's recovery occurs or whether permitting such prosecution will encourage crime victims to remain frozen at an early stage of their psychological recovery, awaiting a prosecution that may never happen.  

Criminal victimization can cause profound and prolonged psychological trauma.  Although rape victims often suffer markedly, the consequences of victimization are quite variable: "the severity of the crime does not necessarily predict the severity of the symptoms."  The duration of the symptoms is similarly uncertain. Rape victims may experience posttraumatic stress disorder (PTSD) for many years. But the critical question, from the victim's perspective, is to ask what will

382.  Id. at 103.
383.  See Wiebe, supra note 376, at 215 (summarizing research results indicating that victimization may lead to "anxiety disorders, depression, drug and alcohol abuse, fear, flashbacks, lowered self-esteem, sexual dysfunction, somatic complaints, suicidal ideation, suspiciousness, and a sense of social isolation").
384.  See Patricia A. Resick, Victims of Sexual Assault, in VICTIMS OF CRIME, supra note 376, at 69 (noting that rape has been deemed "the most traumatic adult crime, short of murder," and asserting that "nearly 20% of rape victims attempt suicide, and 44% contemplate suicide" in the aftermath of the rape).
385.  Wiebe, supra note 376, at 216.
386.  Id.  Much of the research into the adjustment of rape victims has tracked the question over relatively short periods, for example, two weeks to eighteen months postcrime.  See Resick, supra note 384, at 72–74.
387.  See Resick, supra note 384, at 77 ("All of the studies [of psychological reactions to rape] have found that the bulk of improvement occurs within the first three months after the crime, but that many rape victims continue reporting problems with fear, anxiety, self-esteem, depression, sexual dysfunction, intrusion and avoidance for years after the event."); Wiebe, supra note 376, at 216 (citing a survey reporting that "fifty-seven percent of rape victims in a community survey reported having suffered PTSD symptoms at some point in their lives, with 16% reporting current PTSD symptoms, an average of 17 years after the rape").  Eighty percent of rape victims report PTSD.  Resick, supra note 384, at 76.  The "essential feature" of PTSD "is the development of characteristic symptoms following exposure to an extreme traumatic stressor involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity."  AM.  PSYCHIATRIC ASSN, DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS Posttraumatic Stress Disorder § 309.81 (4th ed. 1994).
significantly reduce the symptoms and facilitate closure. Some evidence suggests that the continuation of PTSD may be due to the inadequate coping strategies of some victims. Far from “blaming the victim,” this last finding serves to validate victims’ autonomy by intimating that recovery is largely in their hands. “Taking individual responsibility for the experience may help the victim to find meaning, because responsibility, if defined as the choosing or creating of one’s experiences, is related to meaning and autonomy in life.” Effective victim recovery seems at least a two-stage process: accepting the fact of injury and then asserting authorship for one’s recovery. One study succinctly limned the point: “healing entails empowerment.”

A criminal prosecution may provide a juristic ending to the victim’s violation. But depending on the vagaries of the criminal justice system to provide psychological balm is to risk relying on other actors for the resolution of one’s own trauma. Further,

388. See Wiebe, supra note 376, at 215 (stating that “the proliferation of victim’s rights has stemmed from the desire to ease victims psychological suffering”).

389. Id. at 217.

Symptoms may also endure because, left to themselves, crime victims may select inefficacious techniques for recovery. Research focusing on victims’ coping strategies outside a therapeutic relationship found that some victims’ methods, such as changing phone numbers, staying at home, moving, not going out alone, installing new locks, bolting locks more, owning or carrying a weapon, changing jobs, and generally exercising more caution, failed to facilitate their recovery significantly.... Without assistance, then, many crime victims will continue to experience significant adverse psychological symptoms.

390. Henderson, supra note 376, at 961 (footnote omitted).

391. See id. at 961–62.

Assuming responsibility for a traumatic experience is a process requiring an assertion or reassertion of control in one’s life. Responsibility initially requires an individual to accept that the criminal event occurred...[U]ntil a victim acknowledges the actual experience as hers...alone—that she was raped...the victim is virtually powerless to be free from the rapist...or to take responsibility for, and thereby reassert control over, the event and the direction of her...life.

392. Shuman & Smith, supra note 375, at 106.

393. See Henderson, supra note 376, at 976 (“Victims are likely to want a
when rape victims defer their recovery while waiting, perhaps for many years, for the arrest and prosecution of their victimizers, they remain particularly vulnerable to any future wounding events, including retraumatization in an emotional reprise of the original rape. Enlisting aid from a support system will also be more difficult years later rather than nearer the time of the precipitating event.

Moreover, no clear connection has been established between the commencement of a prosecution and the easing of victims' traumatic symptoms. The participation of victims in the criminal justice process "has been regarded commonly as stressful and disruptive to their recovery, especially among victims of sexual assault." The legal system's effect on the victim has been referred to as the "second injury" or "second wound." Despite the increased respect for and involvement of

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394. See NEW DIRECTIONS FROM THE FIELD, supra note 391, at 223 ("Crisis reactions can also reappear at later times in [victims'] lives when another event triggers their memory of the original trauma."); Resick, supra note 384, at 82 ("Postponing recovery from the rape trauma complicates recovery from later traumas because it appears that when the first event was not resolved and processed to the point where the emotions had dissipated, it is left encoded with all the intense emotions intact.").

395. See Resick, supra note 384, at 82 ("Family and friends are likely to be confused as to why the victim is so upset years after an event occurred.").

396. Weibe, supra note 376, at 224.

397. Arthur J. Lurigio & Patricia A. Resick, Healing the Psychological Wounds of Criminal Victimization: Predicting Postcrime Distress and Recovery, in VICTIMS OF CRIME, supra note 376, at 60. For example, in a recent case in which an accused rapist was arrested thirteen years after the crime, both the victim and accused now face trial, and the sex abuse detective who oversaw the original investigation has expressed his belief that "there is no victory in this . . . I don't think there's closure. I think it's reopened closed wounds." Tom Spalding, DNA Test Links Inmate to Rape of Girl in 1991: Database Invented After the Crime Led an IPD DETECTIVE to a Kidnapper in Missouri, INDIANAPOLIS STAR, Feb. 12, 2004, at 5B.

398. Martin Symonds, The "Second Injury" to Victims, EVALUATION AND CHANGE: SERVICES FOR SURVIVORS, 1980, at 36, 38–38. "[E]xtended court proceedings may inflict continual demands on [female victims of sexual assault] and keep them in a victim role." Lurigio & Resick, supra note 397, at 60–61. The prospect of providing courtroom testimony has been viewed by crime victims as "one of most fear-provoking stimuli." Id. at 61. Indeed, a rape victim's testimony may be far from cathartic. See Henderson, supra
crime victims in the legal system in recent years, the decision to bring a case to trial, as well as the myriad choices regarding scheduling, plea bargaining, and what evidence to adduce, remain almost exclusively in the prosecutor’s domain.399 No matter how the case unfolds, a critical component of a rape trial will be the victim’s retelling of the story of her victimization.400 Whether reimmersion into the past trauma is therapeutic or the opposite almost surely hinges on the rape victim’s highly personal reaction.401 In fact, the unpredictable consequence of the long-delayed prosecution may itself frustrate the process of victim recovery.402 Four outcomes are possible: a guilty defendant may be convicted or acquitted, and the same options face an innocent defendant. The alternatives for the recovery and personal reintegration for a victim who has waited for many years for a rape trial may be painfully uncertain.403 There is, in short, “no research linking conviction or harsh punishment with the victim’s recovery.”404

note 376, at 980 (“Catharsis encompasses articulation and expression of traumatic experiences in appropriate settings. . . . The victim is unlikely to feel that a courtroom is the right place for this kind of emotional experience.”). More broadly, the 1997 report by the U.S. Department of Justice attributes victims’ “second wound” to the “lack of support and even stigmatization by friends, family, and social institutions . . . [Victims] often feel revictimized by the criminal or juvenile justice process, which traditionally has been more concerned with the rights of the accused than with those of the victim.” NEW DIRECTIONS FROM THE FIELD, supra note 391, at 219.

399. See generally NEW DIRECTIONS FROM THE FIELD, supra note 391, at ix–x (reporting on the “progress over the past two decades toward establishing state and federal rights for victims of crime,” but advising that “even in states that have enacted constitutional rights for victims, implementation is often arbitrary and based on the individual practices and preferences of criminal justice officials”); Robert C. Davis & Madeline Henley, Victim Service Programs, in VICTIMS OF CRIME, supra note 376, at 157–71 (describing the evolution of such programs).

400. See SHUMAN & SMITH, supra note 375, at 107–08 (discussing the effect of judicial testimony on survivors and questioning its therapeutic potential).

401. See id. at 108 (stating that although some crime victims need a successful prosecution to move into recovery, others prefer to move on past the trauma if the prosecution is not timely).

402. See id. (stating that some victims who have recovered can be debilitated by the renewed and delayed prosecution).

403. See id. at 105 (noting that it is unclear how victims respond to acquittals versus convictions of their assailants).

404. Id. The emotional crazy-quilt is readily apparent:

Some crime victims appear to recover only after successful criminal prosecution, and some appear to recover in the absence of successful prosecution or do not appear to recover even after successful prosecution. Some crime victims do not appear to recover until a delayed prosecution of an old crime, whereas some who had appeared to recover seemed debilitated by the delayed prosecution.

Id. at 108 (footnotes omitted). But see id. at 109 (suggesting that for sexual assault victims whose principal fear is revictimization by the same offender, even a delayed prosecution may be more therapeutic than none at all).
Nor does the fact that a prosecution has finally commenced necessarily foster recovery for a victim anticipating a legal conclusion to the case. Although the interplay of psychological and legal factors is a priori unknowable in individual cases, it may be stated with certitude that victims who believe they will achieve closure only with the end of the defendant's appeals may have many years to wait. And the occasional reversal of a rape conviction and remand for another trial cannot be anything but savagely harmful to victims' efforts to move on with their lives, especially if they had sought affirmation of their recovery from the legal system.406

We can promise that rape cases will remain open. But because we cannot guarantee that the offenders will ever be caught, we may be forcing victims to prolong their day in court forever. From a therapeutic justice perspective, the case for eliminating limitations periods in sex offense cases is yet unproven.

C. A Brief Proposal for Reform of the Statutes of Limitations in Sexual Offense Cases

As noted above, prior to the recent DNA revolution, federal and state legislation generally fixed the limitations period for felonies at approximately five or six years.406 This Article has argued that 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 witnesses. Accordingly, the five or six year limitations period warrants retention.

However, some consideration seems appropriate in light of the difficulty of reducing the current backlog of DNA samples in state and federal crime laboratories. An extension of the limitations period, governed by a due diligence standard, might accommodate the equities in this area. New York has such a

405. See, e.g., United States v. Hasting, 461 U.S. 499, 507 (1983) ("[T]he Court of Appeals failed . . . to give appropriate—if, indeed, any—weight to these relevant interests. It did not consider the trauma the victims of these particularly heinous crimes would experience in a new trial, forcing them to relive harrowing experiences now long past . . . ."); see also Morris v. Slappy, 461 U.S. 1, 14 (1983) (criticizing the failure of the lower court to consider the impact of yet another retrial upon the victim's "ordeal of reliving such an experience for the third time").

406. Refer to text accompanying notes 53–56 supra (comparing and contrasting the statute of limitations approaches of states, the federal government, and the Model Penal Code).
provision, which excludes from the calculation of the statute of limitation any period when "the whereabouts of the defendant were continuously unknown and continuously unascertainable by the exercise of reasonable diligence." 407 This provision has been interpreted to toll the statute of limitations for any time during which either the whereabouts or the identity of the defendant is unknown, as long as the police exercise due diligence in establishing the above. 408 This provision has been applied to cases in which the identity of a sex offender is unknown until discovered through due diligence by the state. 409 But the statute also provides that "in no event shall the period of limitation be extended by more than five years beyond the period otherwise applicable." 410 New York's limitations period for noncapital felonies is five years; 411 with the due diligence extension, a sexual offense case could be prosecuted up to ten years from the date of the offense. 412 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


408. The police may be ignorant of the whereabouts of a perpetrator of a crime where they have identified the perpetrator but lack knowledge of his or her physical location, or where they have not identified the perpetrator at all and thus cannot determine where he or she is. The phrase 'whereabouts of the defendant' must be deemed to include both situations.

409. See People v. Jones, 751 N.Y.S.2d 173, 174–75 (App. Div. 2002) (affirming the tolling of the statute of limitations pursuant to New York Criminal Procedure Law section 30.10(4)(a) "because the record sufficiently establishes that defendant's identity and whereabouts were unknown and unascertainable by the exercise of reasonable diligence, [and] [t]he People made a suitable showing of their extensive and diligent efforts to identify the perpetrator of this series of sex crimes" (citation omitted)). In sexual offense prosecutions based on DNA database matching, assessing the State's due diligence would include considering the timeliness and thoroughness of its search of DNA databases for a match to a rape kit DNA sample. See, e.g., People v. Sawyer, No. 50605U, slip op. at 7–9 (N.Y. Sup. Ct. Feb. 25, 2003) (noting that during the six-and-a-half year search for the perpetrator of a rape crime, DNA profiling and fingerprint analysis was routinely performed and thus met the requirement of due diligence, tolling the statute of limitations).

410. N.Y. CRIM. PROC. LAW § 30.10(4)(a) (McKinney 1996); see Seda, 712 N.E.2d at 685 (noting that "the limitations period will be extended at most for five years").

411. § 30.10(2).

412. § 30.10(2)(b), (4)(a).
in a timely manner, which would minimize the risk of erroneous convictions.\textsuperscript{413} Allowing sexual offense cases to proceed up to a decade after the offense may push the balance to its limit.\textsuperscript{414}

Another component of the diligent prosecution required of the state relates to DNA laboratory accreditation requirements and minimum evidentiary standards. Given the disastrous track record of unaccredited crime labs,\textsuperscript{415} all states and the federal government should require that all DNA samples be processed exclusively in nationally accredited laboratories, whose certification procedures, employee training and evaluation records, and laboratory error rates are made public.\textsuperscript{416} This proposal would thus allow the prosecution to take advantage of an extension of the original limitations period only if, in addition

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\item \textsuperscript{413} See Seda, 712 N.E.2d at 685 (stating that in enacting section 30.10 (4)(a), the New York Legislature "carefully balanced the general policy in favor of avoiding prosecution of stale cases against the countervailing policy of ensuring that law enforcement officers have sufficient time to bring suspected criminals to justice," but only in the event that due diligence was used).
\item \textsuperscript{414} Federal legislation pending as of this writing contains a different tolling proposal. See Advancing Justice Through DNA Technology Act of 2003, S. 1828, 108th Cong. § 104(a) (2003).
\item In a case in which DNA testing implicates a person in the commission of a felony, no statute of limitations that would otherwise preclude prosecution of the offense shall preclude such prosecution until a period of time following the implication of the person by DNA testing has elapsed that is equal to the otherwise applicable limitation period. See id. Unfortunately, this proposed legislation contains no ultimate endpoint for the limitations period. See id. (imposing no maximum number of years). Consistent with the reasoning in this Article, an appropriate provision might be added requiring, for instance, that in no event may the prosecution commence any later than the expiration of twice the length of the original limitations period. See § 30.10\textsuperscript{(3)(e), (4)(a) (limiting the prosecution of a sexual assault to no more than five years beyond the original five-year period following the assault).
\item \textsuperscript{415} Refer to Part III.D supra (detailing the numerous problems at the Houston, West Virginia, San Francisco, and FBI crime labs).
\item \textsuperscript{416} See, e.g., DNA Advisory Board Quality Assurance Standards for Forensic DNA Testing Laboratories, available at http://www.cstl.nist.gov/div831/strbase/dabqas.htm (last visited Nov. 12, 2003) (detailing standards for, inter alia, 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). Many of the problems discussed in this Article would be alleviated if the crime labs were accredited, their analysts certified, and adherence to professional standards enforced. Interview with Dennis Reeder, coauthor of DNA Advisory Board Quality Assurance Standards for Forensic DNA Testing Laboratories and Senior Manager, New Product Development, Applied Genetic Analysis Group, Applied Biosystems (July 31, 2003) (on file with Author). The DNA Analysis Backlog Elimination Act of 2000 provided for voluntary "quality assurance standards for DNA laboratories." 42 U.S.C. § 14135a(d)(2) (2000).
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to satisfying the ordinary measures of due diligence, the DNA identification relied upon by the prosecution had been processed by an appropriately accredited laboratory. Furthermore, an evidentiary standard is needed to provide the defense an opportunity to retest DNA evidence offered by the prosecution as proof of the defendant's identity. The admissibility of any such DNA evidence offered by the State should be conditioned upon the preservation of enough DNA sample to allow for an independent reanalysis by the defense.

As you continue to prepare for the rape trial of your client, you worry that whatever defense your client might have had has long ago disappeared. Did the police act properly in collecting the crime scene DNA sample? Did the state crime lab, which failed to save a portion of the sample for retesting, follow proper protocols and accurately analyze the DNA? Did your client have witnesses and documentary evidence that confirmed his location in another city at the time of the rape? Can you effectively cross-examine the complainant, who has admitted that she cannot identify your client? You conclude that, after twenty years, these questions cannot be answered.

V. CONCLUSION

There is no question that the "advent of DNA analysis has revolutionized both research science and the judicial system." But perhaps the revolution has gone too far. To maintain the proper balance between a fair opportunity to prosecute crime and an equitable prospect of defending against an accusation, the venerable wisdom of our legal system that generally sets an endpoint to a potential prosecution must be preserved. DNA changes much about the world, but the disequilibrium caused by eliminating limitations periods in sex offense cases will cause untold harm by facilitating conviction of the innocent, by allowing the State to cease active criminal investigations too early, and perhaps even by endlessly prolonging the trauma for rape victims.

417. Refer to text accompanying notes 171–76 supra (describing the importance of retesting forensic samples).
418. See, e.g., GA. CODE ANN. § 17-3-1(c.1) (2002) (requiring that "a sufficient portion of the physical evidence tested for DNA [must be] preserved and available for testing by the accused"); OKLA. STAT. ANN., tit. 22, § 152(C)(2)(b) (West 2003 & Supp. 2004) (requiring that "physical evidence [be] collected and preserved that is capable of being tested to obtain a profile from deoxyribonucleic acid (DNA)").
In 1540, the English Parliament enacted a limiting statute that was clearly intended to "guard against the dangers of trying a case for which the relevant evidence had been lost or destroyed." Over two and one-half centuries later, Chief Justice John Marshall recognized that a claim that could be "brought at any distance of time... would be utterly repugnant to the genius of our laws." The wisdom of the common law may still be accommodated to the DNA revolution. Retaining (or reinstituting) reasonable statutes of limitations is still the best way to ensure that trials are conducted with as much relevant evidence as is humanly possible. Limitations periods should neither be revered nor reviled, but acknowledged as necessary lineaments to our legal system’s effort to secure accurate outcomes.

420. Gail L. Heriot, A Study in the Choice of Form: Statutes of Limitation and the Doctrine of Laches, 1992 BYU L. Rev. 917, 925 (“Forasmuch as the time of Limitation appointed for suing... extend, and be of so far and long time past, that it is above the remembrance of any living man, truly to try and know the perfect certainty of such things... to the great danger of mens consciences....” (second alteration in original) (citing the Act of Limitation with a Proviso, 1540, 32 Hen. 8, c. 2 (Eng.))).