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Cultivating Judgment on the Tools of Wrongful Conviction

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CULTIVATING JUDGMENT ON THE TOOLS OF WRONGFUL CONVICTION

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I. INTRODUCTION

IN November 2014, Ryan Ferguson walked out of the Jefferson City Correctional Center a free man after spending more than a decade in a prison for a crime many people believe he did not commit. In 2005, when he was just twenty-one years old, Ferguson was convicted of killing a local newspaper reporter.[1] Although there was no physical evidence tying Ferguson to the murder, he was convicted based primarily on the testimony of an alleged co-conspirator, Charles Erickson, and another eyewitness, Jerry Trump.[2] Erickson had been picked up by local police officers after telling his friends that he had "dream like" memories about the murder.[3] While being questioned by the officers, Erickson confessed to the crime, and that confession implicated Ferguson.[4] Erickson later testified against Ferguson in exchange for a lesser sentence.[5] The other eyewitness, Trump, testified that he had seen Ferguson at the scene of the crime—a memory that he was unable to recall when first questioned by the police but instead recalled at some later time.[6] After unsuccessfully appealing his case, Ferguson finally had his conviction vacated in 2013 on habeas corpus review.[7] Although the court did not rule on Ferguson's actual innocence—instead vacating the conviction on the ground that the government had failed to produce exculpatory material as required by *Brady v. Maryland*[8]—it did express significant doubts that the government would want to retry Ferguson.[9] Among the reasons the court cited were that Erickson had recanted his testimony implicating Ferguson, Trump had recanted his identification of Ferguson, Trump had stated that he felt that the police pressured him into identifying Ferguson, a third witness had testified that Ferguson was not the man observed at the scene of the crime, and yet another witness had testified that she had seen Ferguson elsewhere around the same time that the crime was committed.[10]

Ferguson's story is not unique.[11] There are hundreds of reports of

1. *See* Ferguson v. Dormire, 413 S.W.3d 40, 44 (Mo. Ct. App. 2013).
2. *See id.* at 46–47.
3. *See id.* at 46.
4. *See id.*
5. *Id.*
6. *See id.* at 47.
7. *See id.* at 73 ("As a result of our grant of habeas relief, Ferguson's convictions are vacated.").
8. 373 U.S. 83 (1963).
9. *See Ferguson*, 413 S.W.3d at 71–73.
10. *See id.* at 72–73.
11. While there have been hundreds of wrongful convictions in this country, Ferguson's case is unique in one respect—that it is so well known. E-mail from Kathleen Zellner, Founding Partner, Law Offices of Kathleen T. Zellner & Associates (July 21, 2014) (on file with authors) [hereinafter Zellner E-mail]. This is in large part due to "his use of social media to garner support." *Id.* "Ferguson had over 350,000 Facebook followers, his Facebook page generated over 1 million hits, and all three major networks profiled Ferguson's case in multiple stories." *Id.*

wrongful convictions from across the country.[12] The reasons for these wrongful convictions vary.[13] According to a report by the National Registry of Exonerations, 56% of known wrongful convictions in 2013 were a result of perjury and false accusations, 46% were the product of official misconduct, 38% could be attributed to mistaken witness identifications, 22% arose out of false or misleading evidence, and 12% resulted from false confessions.[14] In some of these instances, like in Ferguson's case, courts are able to vacate the defendant's sentence based on legal errors that occurred at trial. In other cases, defendants have also been able to prove that they are actually innocent of the crimes for which they were convicted.[15] And there likely are cases in which innocent defendants are unable to gain any relief whatsoever. In any of these scenarios, establishing that one has been wrongfully convicted is an uphill battle. Still, with the explosion of the use of DNA evidence in our criminal justice system, a number of defendants have been able to establish that they were wrongfully convicted.[16] And more recently there have even been additional exonerations that are not based on new DNA evidence.[17]

A significant number of defendants claim innocence, but it is difficult to pinpoint the number of wrongful convictions that have actually occurred.[18] At the high end, a study commissioned by the Department of Justice suggests that the rate of wrongful conviction could be as high as

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12. *See* NATIONAL REGISTRY OF EXONERATIONS, EXONERATIONS IN 2013 1 (2014) [hereinafter EXONERATIONS IN 2013], http://www.law.umich.edu/special/exoneration/Documents/Exonerations_in_2013_Report.pdf [http://perma.cc/X36N-FTG5].

13. *See id.* at 17.

14. *See id.*; *cf.* SAMUEL R. GROSS & MICHAEL SHAFFER, EXONERATIONS IN THE UNITED STATES, 1989–2012: REPORT BY THE NATIONAL REGISTRY OF EXONERATIONS 40 (2012), http://www.law.umich.edu/special/exoneration/Documents/exonerations_us_1989_2012_full_report.pdf [http://perma.cc/2VDH-H77A] (stating in the year of publication that 51% of known wrongful convictions were a result of perjury and false accusations, 42% were the product of official misconduct, 43% can be attributed to mistaken witness identifications, 24% arose out of false or misleading evidence, and 15% resulted from of false confessions). However, each case tends to have multiple factors contributing to the error, and the frequency of the factors varies considerably depending on the crime. *See* EXONERATIONS IN 2013, *supra*, at 17; GROSS & SHAFFER, *supra*, at 41. For example, mistaken eyewitness identification has been a contributing factor in 82% of wrongful robbery convictions and 75% of wrongful sexual assault cases, but only 26% of wrongful homicide convictions. *See* EXONERATIONS IN 2013, *supra*, at 17. On the other hand, false confessions occurred in 20% of wrongful homicide convictions, but in only 1% of wrongful robbery convictions. *See id.*

15. *See, e.g.*, Brown v. State, No. 113684 (N.Y. Ct. Cl. Oct. 20, 2008), http://vertumnus.courts.state.ny.us/claims/html/2008-009-029.html [http://perma.cc/3ENT-LSDZ] (granting a plaintiff's motion for summary judgment in his wrongful conviction claim against the state after serving fifteen years in prison).

16. *See* GROSS & SHAFFER, *supra* note 14, at 22.

17. *See Non-DNA Exonerations*, INNOCENCE PROJECT, http://www.innocenceproject.org/know/non-dna-exonerations.php [http://perma.cc/8Q6Q-24FG] (offering the stories of several wrongfully convicted individuals who were exonerated through means other than DNA evidence).

18. Part of this dispute arises from a lack of consistency in defining "wrongfully convicted." Much of the dispute can be attributed to the fact that there are real limits to available reliable data in this area. *See* KEITH A. FINDLEY, *Wrongful Conviction*, ENCYCLOPEDIA OF PSYCHOLOGY & LAW (2007), http://www.sage-ereference.com/psychologylaw/Article_n353.html [http://perma.cc/JFW2-HY2U].

15%.[19] At the low end, a county district attorney from Oregon has estimated that the rate of wrongful conviction is probably closer to 0.027%.[20] Justice Scalia alluded to this lower figure in his 2006 concurrence to *Kansas v. Marsh*.[21] Professor Michael Risinger has argued that the real rate of wrongful conviction lies somewhere in the middle—at around 3.3% to 5%.[22] Still others have suggested that the rate may be closer to 0.84%.[23]

These estimates of the frequency of wrongful conviction are in large part derived from the number of exonerations in this country. Since 1989, over 1,700 individuals have been exonerated of the crimes for which they were convicted.[24] This represents less than 0.1% of the approximately 2.4

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19. *See* JOHN ROMAN ET AL., POST CONVICTION DNA TESTING AND WRONGFUL CONVICTION 5–6 (2012), http://www.urban.org/UploadedPDF/412589-Post-Conviction-DNA-Testing-and-Wrongful-Conviction.pdf [http://perma.cc/966F-SGUB] (finding that, from a sample of 422 sexual assault "convictions in Virginia between 1973 and 1987 where evidence was retained[,] . . . [t]he convicted offender was eliminated as the source of questioned evidence . . . where a determination could be made from the DNA analysis, and that elimination was supportive of exoneration[,]" in 15% of cases); *see also* Stephanie Roberts Hartung, *Missing the Forest for the Trees: Federal Habeas Corpus and the Piecemeal Problem in Actual Innocence Cases*, 10 STAN. J. C.R. & C.L. 55, 72 (2014). Note that the study is quite limited in scope and qualifies this estimate.

20. *See* Joshua Marquis, *The Innocent and the Shammed*, N.Y. TIMES, Jan. 26, 2006, at A23, http://www.nytimes.com/2006/01/26/opinion/26marquis.html [http://perma.cc/KU4P-G9XW].

21. 548 U.S. 163, 198–99 (2006) (Scalia, J., concurring) (citing Joshua Marquis, *The Myth of Innocence*, 95 J. CRIM. L. & CRIMINOLOGY 501, 518 (2005), and stating that the possibility that a defendant will be wrongfully convicted and punished "has been reduced to an insignificant minimum").

22. *See* D. Michael Risinger, *Innocents Convicted: An Empirically Justified Factual Wrongful Conviction Rate*, 97 J. CRIM. L. & CRIMINOLOGY 761, 778–79 (2007).

23. *See* Ronald J. Allen & Larry Laudan, *Deadly Dilemmas*, 41 TEX. TECH L. REV. 65, 71 (2008) (suggesting that Risinger's own data results in an error rate closer to 0.84%).

24. *See* NAT'L REGISTRY OF EXONERATIONS, http://www.law.umich.edu/special/exoneration/Pages/detaillist.aspx?View={faf6eddb-5a68-4f8f-8a52-2c61f5bf9ea7}&SortField=Exonerated&SortDir=Asc [http://perma.cc/88WV-UJS2]. The National Registry of Exonerations states that, as of November 24, 2015, there had been 1,705 exonerations. It further provides that:

> A person has been exonerated if he or she was convicted of a crime and later was either: (1) declared to be factually innocent by a government official or agency with the authority to make that declaration; or (2) relieved of all the consequences of the criminal conviction by a government official or body with the authority to take that action. The official action may be: (i) a complete pardon by a governor or other competent authority, whether or not the pardon is designated as based on innocence; (ii) an acquittal of all charges factually related to the crime for which the person was originally convicted; or (iii) a dismissal of all charges related to the crime for which the person was originally convicted, by a court or by a prosecutor with the authority to enter that dismissal. The pardon, acquittal, or dismissal must have been the result, at least in part, of evidence of innocence that either (i) was not presented at the trial at which the person was convicted; or (ii) if the person pled guilty, was not known to the defendant, the defense attorney and the court at the time the plea was entered. The evidence of innocence need not be an explicit basis for the official action that exonerated the person.

Glossary, NAT'L REGISTRY OF EXONERATIONS, http://www.law.umich.edu/special/exoneration/Pages/glossary.aspx [http://perma.cc/ZFT7-9TNJ]. In one sense, a large number of exonerations is a positive sign: at least some wrongful convictions are being corrected.

million people currently incarcerated in the United States.[25] This percentage likely underestimates the rate of wrongful conviction, though, because a good proportion of those inmates were convicted prior to serious tracking of wrongful conviction. Further, 83% of exonerations have been for rape and homicide convictions, which account for only 2% of felony convictions.[26] When isolating the rate of exonerations for rape and homicide, the exoneration rate jumps to nearly 3%.[27] There are still uncertainties with this calculus. For example, would the rate of exonerations be constant among different types of offenses? And, although exonerations have been reported from all over the country, more than half of the exonerations in 2013 were from just six states.[28] Even considering varying incarceration rates among the states, such a great disparity in the number of exonerations among states seems unlikely. Further, it has been suggested that we may not be aware of all exonerations that have taken place because individual counties may not be widely reporting them.[29] Additionally, although capital cases make up only a small percentage of felony cases, they constitute a relatively high percentage of reported exonerations.[30]

Despite the variability in estimates on the rate of wrongful conviction and lack of certainty as to the true number of exonerations, no one seems to be arguing that no wrongful convictions have occurred or that no wrongful convictions are continuing to occur. Instead, those who are less concerned with the problem of wrongful conviction rightly suggest that a perfect system is impossible. Indeed, even our accepted burden of proof—beyond a reasonable doubt—contemplates that there can be no absolute certainty that an individual is guilty. Even at the low end of the estimates, though, there is reason to be concerned about individuals who have been wrongfully convicted. People's lives and liberties are at stake. As one law professor has suggested, it may be helpful to consider these possible rates of wrongful conviction—even the lowest of them—in comparison to plane crashes: "Roughly 18,000 flights arrive or depart Atlanta's Hartsfield-Jackson airport each week. If five of those planes crashed—roughly .027% of flights—operations at the airport would cease immediately. So, too, would 125 people wrongfully imprisoned annually (.027% of all state court felony convictions) represent a disturbing num-

25. *See* J.F., *America's Prison Population: Who, What, Where and Why?*, ECONOMIST, Mar. 13, 2014, http://www.economist.com/blogs/democracyinamerica/2014/03/americas-prison-population [http://perma.cc/ZK88-878M]; Peter Wagner & Leah Sakala, *Mass Incarceration: The Whole Pie*, PRISON POL'Y INITIATIVE, Mar. 12, 2014, http://www.prisonpolicy.org/reports/pie.html [http://perma.cc/PV6J-BE7Z]; *Criminal Justice Fact Sheet*, NAACP, http://www.naacp.org/pages/criminal-justice-fact-sheet [http://perma.cc/EPW8-6BGJ].

26. *See* GROSS & SHAFFER, *supra* note 14, at 3.

27. If about 83% of 1,705 exonerations are for rape and homicide, and if approximately 2% of the prison population (2.4 million) is incarcerated for rape or homicide, then the exoneration rate for these crimes is about 3%.

28. *See* EXONERATIONS IN 2013, *supra* note 14, at 1.

29. *See* GROSS & SHAFFER, *supra* note 14, at 38.

30. *See id.* at 4.

ber of wrongful convictions."[31]

Considering that wrongful conviction is a serious concern, it is important to isolate some of the major contributors to the problem. Part II of this Article lays out these potential sources of error, including the problems associated with faulty forensic evidence, eyewitness testimony, false confessions, prosecutorial team actions, inadequate defense counsel, informant testimony, and explicit and implicit bias. There is evidence that many of these tools used to convict defendants are based on faulty scientific footings and that actors within the criminal justice system can be either consciously or unconsciously responsible for contributing to wrongful convictions.[32] Many of these sources of error, though, can be ameliorated through greater awareness of the problem, the use of more rigorous procedures, and additional scientific research.

Although there is a need to address the sources of error within the system, it is also important to recognize the ways in which judges are limited in reviewing these cases. At the trial court level, judges are constrained by a limited understanding of the shortcomings of modern conviction tools. To the extent that trial court judges do possess the relevant knowledge and capabilities for addressing the problem of wrongful conviction, this attacks only part of the problem. Today, it is likely that there are innocent individuals serving time in prisons throughout the country.[33] Having already been convicted, they are unlikely to benefit as much from remedies targeted at sources of error as those who have not yet been tried. Appellate judges and perhaps the limited remedy of clemency may be their only hope. Part III of this Article explores how appellate judges' abilities to address this problem are generally quite limited under the current system.

Despite the concerns raised in Parts II and III, Part IV highlights how there have been several steps in the right direction toward addressing the concerns related to wrongful conviction. Many actors within the criminal justice system have learned about some of the shortcomings of currently employed forensic methods, eyewitness testimony, and defendant confessions. Moreover, cautionary tales about overzealous policing and prosecution, ineffective assistance of counsel, and explicit and implicit bias have received some attention.[34] Further, some jurisdictions have either legislatively or judicially implemented some new procedures aimed at the

31. Robert J. Smith, *Recalibrating Constitutional Innocence Protection*, 87 WASH. L. REV. 139, 143–44 (2012).

32. *See* GROSS & SHAFFER, *supra* note 14, at 63.

33. *See id.* at 3.

34. *See, e.g.*, Stephen L. Carter, *The Overzealous Prosecution of Aaron Swartz*, BLOOMBERG VIEW (Jan. 17, 2013, 6:30 PM), http://www.bloombergview.com/articles/2013-01-17/the-overzealous-prosecution-of-aaron-swartz [http://perma.cc/DC4W-8DF5]; Lafler v. Cooper, 132 S. Ct. 1376 (2012); Jennifer L. Mnookin, *The 'West Memphis Three' and Combating Cognitive Biases*, L.A. TIMES, Aug. 23, 2011, http://articles.latimes.com/2011/aug/23/opinion/la-oe-mnookin-west-memphis-three-rele20110823 [http://perma.cc/46BP-LRGD].

potential sources of wrongful conviction.[35] And many attorneys have gotten involved in helping individuals who have already been convicted but yet persuasively declare their innocence.[36]

Although some steps have been made in the right direction, there is still room for improvement. Part IV explains that education is essential to addressing the problem of wrongful conviction. Judges and other relevant decisionmakers must first understand and acknowledge that there truly is a problem of wrongful conviction in this country. They must also feel empowered to address it—by embracing their authority within the system and grasping onto the confidence and skill necessary to understand the science behind much of the research related to wrongful conviction. There also must be more research on the reliability of the tools used to convict criminal defendants so that judges and others have the relevant data to assess these tools' reliability for legal purposes. It is also important that judges and others recognize that nearly all decisionmakers run the risk of being colored by explicit and implicit biases. As with the problem of wrongful conviction itself, recognizing the potential for error and imperfection is essential before one can begin to address the problem. Both thorough education and the proper outlook are paramount in effectively addressing the concern of wrongful conviction.

II. POTENTIAL SOURCES OF ERROR

There are several factors that lead to wrongful convictions.[37] One major possible source of error arises from the field of forensic science.[38] Forensic scientists have long relied on, and testified to, certain methods of determining matters relevant to conviction.[39] Some of these methods, though, are not based on reliable science.[40] Other possible sources of error include unreliable eyewitness testimony and defendants' false confessions.[41] Additionally, error can stem from either intentional or unintentional conduct by prosecutors and law enforcement, or from inadequate representation by defense attorneys.[42] Information and testimony obtained from informants, who are frequently rewarded with "fees," such as reduced sentences, are another source of error that can lead to wrongful conviction.[43] Further, explicit and implicit biases can contribute to such wrong results.[44] There are other numerous possible sources of error

35. *See, e.g.*, Blasdell v. State, 384 S.W.3d 824 (Tex. Crim. App. 2012).
36. *See infra* Part III.F.
37. Several sources of error have been identified, but we cannot list all known sources of error, and an exhaustive list of such sources of error is not possible at this time. *See* GROSS & SHAFFER, *supra* note 14, at 40.
38. *Id.* at 63.
39. *See id.* at 65.
40. *See id.* at 63.
41. *Id.* at 43, 57.
42. *Id.* at 66.
43. *Id.* at 54–55.
44. *Id.* at 49.

that can lead to wrongful convictions,[45] and it is important to recognize this wide range of potential defects that could lead to wrongful conviction in order to better address this broad concern of innocent individuals being punished for crimes that they did not commit.

A. FAULTY FORENSIC EVIDENCE

False or misleading forensic evidence has been a major contributor to the known cases of wrongful conviction.[46] A 2009 study by the National Research Council of the National Academy of Sciences (NAS) examined the uses of forensic science in criminal cases and found systemic problems with many current forensic science practices.[47] An overarching difficulty with forensic science is identifying what really is "science" and thus perhaps more reliable than other evidence, and how this should be conveyed in expert testimony. Specific problems include a lack of standards and accreditation for forensic scientists and shaky scientific bases for and methodologies employed in analyzing hair and fibers, tool-mark and firearm impressions, fingerprints, arson indicators, symptoms of shaken baby syndrome, and other types of forensic science.[48] The problems with the methodologies and standards employed in these areas are especially striking when compared to the methodologies and standards employed in the context of DNA analysis, which the NAS designated as the "gold standard" for forensic science.[49] And the problems with other areas of forensic science are exacerbated by generally poor scientific understanding within the legal community, which has led many to ascribe undue value to dubious evidence.[50]

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45. Not only is this list of possible sources of error not exclusive, but numerous sources of error can coalesce to cause a wrongful conviction, such as may be seen in cases alleged to involve child sexual abuse. *See, e.g.*, Devereaux v. Perez, 218 F.3d 1045 (9th Cir. 2000), on reh'g en banc sub nom. Devereaux v. Abbey, 263 F.3d 1070 (9th Cir. 2001) (setting forth the facts of a case that the Ninth Circuit explained arose "out of the investigation and prosecution . . . for alleged sexual abuse of foster children . . . an investigation that mushroomed into a sexual abuse 'witch hunt' in which 43 adults were charged with over 29,000 counts of sexual molestation").

46. *See* EXONERATIONS IN 2013, *supra* note 14, at 17.

47. *See generally* NATIONAL RESEARCH COUNCIL, STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD xix (2009) [hereinafter STRENGTHENING FORENSIC SCIENCE] (explaining that "change and advancements, both systemic and scientific, are needed in a number of forensic science disciplines—to ensure the reliability of the disciplines, establish enforceable standards, and promote best practices and their consistent application"). Some of these problems are grounded in the lack of scientific research to support the various forensic science disciplines' approaches, and some of these problems are grounded in the lack of standardization and accreditation. *See generally id.*

48. *See generally id.*

49. DONALD E. SHELTON, FORENSIC SCIENCE EVIDENCE: CAN THE LAW KEEP UP WITH SCIENCE? 190 (2012); *see* STRENGTHENING FORENSIC SCIENCE, *supra* note 47, at 130.

50. *See* STRENGTHENING FORENSIC SCIENCE, *supra* note 47, at 53, 85, 234 (explaining that "the forensic science system exhibits serious shortcomings in capacity and quality; yet the courts continue to rely on forensic evidence without fully understanding and addressing the limitations of different forensic science disciplines"); Keith A. Findley, *Innocents at Risk: Adversary Imbalance, Forensic Science, and the Search for Truth*, 38 SETON HALL L. REV. 893, 896–97 (2008) (suggesting that lawyers are incapable of raising adequate challenges to dubious forensic evidence and that judges, lawyers, and juries are limited in their

The NAS report provides thirteen recommendations to improve the viability of forensic science for legal purposes.[51] These recommendations generally entail standardization, quality assurance, and programs designed to improve the reliability of results.[52] Chief among these recommendations is implementing standards and best practices, which currently vary drastically among states and even within individual laboratories.[53] Basic terms like "match," "identical," and "consistent with" are used unsystematically in testimony by forensic scientists and these terms require standardization so that they can have meaning in a legal context.[54] The report also suggests that best practices can be accomplished only by decoupling the administration of forensic science from law enforcement so that reliance on conviction-driven forensic analysis can be replaced with scientific objectivity.[55] The report further recommends that laboratories receive accreditation to increase uniformity and ensure that laboratory reports include all necessary and relevant information.[56] Similarly, to improve quality control, the report recommends requiring that all forensic science practitioners be certified.[57] Further, it recommends greater cooperation with other organizations, particularly with academic institutions, so that forensic science can benefit from scientific advancements and peer review processes.[58] This last recommendation touches on the relevance of scientific advancements to the reliability of forensic science.

Faulty, unscientific methods can masquerade as reliable science and thus contribute to wrongful convictions.[59] Further scientific research and more rigorous methodologies and standardization are important to ensuring that the evidentiary bases of convictions are sound. Moreover, judges and attorneys should be made aware of the shortcomings of the forensic sciences. In many jurisdictions, judges—who are usually not trained in science—are tasked as gatekeepers to determine whether proffered fo-

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abilities "to understand and evaluate the sciences"); Joelle Anne Moreno & Brian Holmgren, *The Supreme Court Screws Up the Science: There Is No Abusive Head Trauma/ Shaken Baby Syndrome "Scientific" Controversy*, 2013 UTAH L. REV. 1357, 1357 (2013) ("[J]udges, law professors, and lawyers are not (as a general rule) scientists."); Major Elizabeth A. Walker, *Shaken Baby Syndrome:* Daubert *and MRE 702's Failure to Exclude Unreliable Scientific Evidence and the Need for Reform*, 210 MIL. L. REV. 1, 47 (2011) ("It is understandable that lawyers and judges would accept scientific expert testimony at face value since the experts are much more knowledgeable in the area. An expert's credentials and training alone can cause a judge to accept the expert's testimony as reliable without question."). Generally poor scientific understanding within the legal community includes a lack of understanding about basic scientific concepts, as well as reliance on myths that are not rooted in scientific reasoning and research.

51. *See* STRENGTHENING FORENSIC SCIENCE, *supra* note 47, at 19–33.
52. *See id.*
53. *See id.* at 19–24.
54. *See id.* at 21.
55. *See id.* at 23–24.
56. *See id.* at 25.
57. *See id.*
58. *See id.* at 19–22, 110.
59. *See infra* text accompanying notes 65–114.

rensic evidence is reliable.[60] And if judges, as well as lawyers, have difficulty understanding the foundations of the various forensic science disciplines, they may have difficulty deciding, or arguing, the related admissibility questions. Studies have demonstrated that many judges are not sensitive to the quality of science presented and do not fully understand the questions implicit in determining scientific reliability under *Daubert v. Merrell Dow Pharmaceuticals, Inc.*[61] Similarly, many attorneys lack sufficient scientific knowledge to effectively challenge forensic evidence or communicate to the judge or jury deficiencies in this evidence.[62] Even in the context of the "gold standard" of DNA evidence, attorneys routinely err in their presentation of matters such as the probability that the unknown evidentiary sample was derived from the defendant.[63] These concerns about the deficiencies of the forensic sciences, and judges' and lawyers' limited understandings of the disciplines, have been discussed in significant depth.[64] Still, there remains a lack of scientific research to fully support much of the forensic testimony that continues to be relied upon in convicting defendants, thus contributing to the problem of wrongful conviction.

1. DNA Analysis

While other forensic sciences were born from comparatively crude observations, DNA analysis spawned from cutting-edge biochemical sciences. Accordingly, there is significant scientific support for this "gold standard" of forensic evidence.[65] In contrast to other forensic sciences, DNA analysis experts employ standardized methodologies and utilize scientifically ascertained statistics on the prevalence of the DNA combinations found in the analyses.[66] This allows DNA analysis experts to testify

60. *See, e.g.*, Daubert v. Merrell Dow Pharm., 509 U.S. 579 (1993); SHELTON, *supra* note 49, at 13. Although this gatekeeper role of judges is often associated with *Daubert* jurisprudence, one scholar has explained that, "[a]lthough states differ as to the implementation of th[e] role, all have adopted the gatekeeper concept." SHELTON, *supra* note 49, at 13.

61. 509 U.S. 579; *see, e.g.*, Sophia I. Gatowski et al., *Asking the Gatekeepers: A National Survey of Judges on Judging Expert Evidence in a Post*-Daubert *World*, 25 L. & HUM. BEHAV. 433, 444–47 (2001) (finding that a small minority of responding judges demonstrated a clear understanding of "falsifiability" (6%) and "error rate" (4%)); Margaret B. Kovera & Bradley D. McAuliff, *The Effects of Peer Review and Evidence Quality on Judge Evaluations of Psychological Science: Are Judges Effective Gatekeepers?*, 85 J. APPLIED PSYCHOL. 574, 580 (2000) (finding that the judges surveyed were generally unable to distinguish between internally valid studies and confounded, missing-control-group, and non-blinded studies).

62. *See* STRENGTHENING FORENSIC SCIENCE, *supra* note 47, *passim*.

63. *See* Erica Beecher-Monas, *Blinded by Science: How Judges Avoid the Science in Scientific Evidence*, 71 TEMP. L. REV. 55, 85 (1998) ("Statistical errors routinely are committed even by defense attorneys, suggesting that lawyers as well as judges could benefit from increased training in probability theory.").

64. *See, e.g.*, STRENGTHENING FORENSIC SCIENCE, *supra* note 47, *passim* (discussing the shortcomings of many forensic science disciplines and the legal community's lack of scientific understanding).

65. SHELTON, *supra* note 49, at 190.

66. *See id.*

as to the probability that the discovered DNA comes from the individual in question, rather than testifying—without the very relevant probabilities—that there is, or is not, a match.

Errors can still occur with respect to DNA evidence, however. For example, laboratory tests can be mislabeled or contaminated,[67] and an analyst could make a mistake or even possibly fabricate results.[68] Even beyond technician error or fabrication, a DNA match could result from something other than the individual in question having committed the crime.[69] Uncertainty still exists, then, even with the well-respected science of DNA analysis. This forensic science is generally so reliable, though, that it has been employed to obtain many of the exonerations that have taken place within the last couple of decades.[70]

2. *Hair and Fiber Evidence*

Hair and fiber analysis is an area that has become prey to a lack of nuanced understanding and expert testimony. Hair analysis is viewed as a useful forensic science because humans and animals frequently transfer hairs to and from their surroundings.[71] All hairs have identifiable characteristics, which can narrow the number of possible donors.[72] The number of possible donors can be narrowed only so far, however; testimony indicating that hairs "match"—which is the testimony that experts in this area sometimes espouse—can only really mean that the hairs exhibit the same characteristics found within a group of people.[73] The forensic methods employed in this area do not allow for a one-to-one match to be reliably pronounced.[74] There are "[n]o scientifically accepted statistics about the frequency with which particular characteristics of hair are distributed in the population,"[75] and therefore for every "match" there could be five other people in the room whose hairs similarly "match."[76] Moreover,

67. *See* STRENGTHENING FORENSIC SCIENCE, *supra* note 47, at 45.

68. There are several known instances of laboratory technicians falsifying results. *See* Paul C. Giannelli & Kevin C. McMunigal, Prosecutors, Ethics, and Expert Witnesses, 76 FORDHAM L. REV. 1493, 1495–1506 (2007). One such instance is described in the Texas case of *Ex Parte* Coty, 418 S.W.3d 597 (Tex. Crim. App. 2014). It was discovered that the technician on the case had engaged in "dry labbing"—testifying to results on tests that he had never even run. *See id.* at 598–99. As a result, all of the technician's previous work came under scrutiny, and the nearly 5,000 cases in which he had acted as a technician in the previous six years at the laboratory had to be investigated. *See id.* An early sampling of the cases he worked on exhibited an error rate of about 2%. *See id.* at 599.

69. *See* Meghan J. Ryan, *Remedying Wrongful Execution*, 45 U. MICH. J.L. REFORM 261, 274 n.89 (2012) ("[W]hile DNA evidence can be 'uniquely probative' of a defendant's innocence, it is not conclusive. For example, the defendant may not have left behind any of his DNA, and the trace DNA evidence examined could belong to his partner or an innocent individual." (internal citations omitted)).

70. The first DNA exoneration was in 1989. *See* Brandon L. Garrett, *Judging Innocence*, 108 COLUM. L. REV. 55, 59 (2008).

71. *See* STRENGTHENING FORENSIC SCIENCE, *supra* note 47, at 155–56.

72. *See id.* at 156.

73. *See id.* at 156–61.

74. *See id.* at 159–60.

75. *Id.* at 160.

76. *Id.*

there are not even uniform standards among forensic scientists as to how many characteristics the sample and comparison hairs must have in common before a "match" is declared.[77] These deficiencies can lead to problematic expert testimony in cases. An especially stark example is the recent revelation that FBI forensic experts gave flawed testimony in over 95% of re-examined cases in which the experts provided hair analysis testimony.[78] This certainly calls into question the reliability of hair analysis testimony regularly employed in criminal cases.

Forensic analysis of fibers is more scientifically validated but is subject to similar constraints.[79] Fibers can be matched to a type of material, and the field of matches can be narrowed because fibers retain characteristics from the environments to which they are exposed.[80] These environmental changes have not, however, been sufficiently studied to fully individuate a fiber.[81]

Nonetheless, hair and fiber evidence is sometimes admitted at trial and presented by experts as if it were conclusive.[82] And it can often be difficult for judges to distinguish between careful, scrupulous expert testimony in these areas, which may be properly admissible, and exaggerated expert testimony.[83]

3. *Tool-Mark and Firearm Impressions*

Another area in which more nuanced testimony and analysis is necessary is that of tool-mark and firearm impressions. As with hair and fiber evidence, there are problems with individuating these impressions.[84] Whenever a harder metal strikes a softer metal, it leaves an impression showing the characteristics of the harder metal.[85] A common example is the marks a gun barrel leaves on a bullet.[86] There is little doubt that these impressions can be used to identify a class of tool, but there is insufficient empirical evidence to support individuation, i.e., to identify the *particular* tool that made the mark.[87] The theory for individuation is that the manufacturing instruments creating tools like crowbars and bullets, themselves, experience wear and tear, which affects the tool. Thus these manufactured tools "will bear microscopically different marks," which then lead

77. *See id.* at 161.
78. *See* Spencer S. Hsu, *FBI Admits Flaws in Hair Analysis Over Decades*, WASH. POST, Apr. 18, 2015.
79. *See id.*
80. *See id.*
81. *See id.* at 163.
82. *See* Findley, supra note 50, at 943 ("When a scientist from the crime laboratory takes the stand to testify that . . . hairs, or other such evidence from the crime scene can be matched in the laboratory to the defendant, even—as such experts sometimes claim—to the exclusion of all other persons in the world, that testimony is likely to be accepted as conclusive.").
83. *See id.* at 945.
84. *See* STRENGTHENING FORENSIC SCIENCE, *supra* note 47, at 154.
85. *See id.* at 150.
86. *See id.* at 151.
87. *See id.* at 150–55.

to critique tool marks.[88] Forensic experts often testify that there is "sufficient agreement" between impressions and that one impression is "consistent with" another, but these terms are not adequately defined.[89] A "significant amount of research would be needed to scientifically determine the degree to which firearms-related tool-marks are unique or even to quantitatively characterize the probability of uniqueness."[90] Yet, expert opinions often present consistency between the tool and impression as determinative fact, even though science cannot support this position.[91] Although these expert opinions may be useful evidence in cases, experts should use more precise language, and careful research should be conducted to determine the probabilities of the uniqueness of tool-mark and firearm impressions.

4. Fingerprint Evidence

Some of the same problems pervade the area of fingerprint evidence.[92] It may come as a surprise to many in the criminal justice field that fingerprint evidence may not be as scientifically reliable as commonly thought. Although fingerprint evidence has been accepted for over a hundred years and courts have readily embraced the proposition that fingerprint evidence can uniquely identify an individual, this individuation has not been scientifically established.[93] Moreover, there is no consensus as to how many characteristics the latent and known prints must share before a match should be declared.[94] Still, the longstanding general acceptance of fingerprint evidence has kept it from being successfully challenged in the vast majority of cases.[95] Some courts have even held that it is unnecessary to hold admissibility hearings on fingerprint evidence.[96] And once finger-

88. *See id.*

89. *Id.* at 153, 155. "Agreement" is sufficient when "the likelihood another tool could have made the mark is so remote as to be considered a practical impossibility." *Theory of Identification as it Relates to Toolmarks*, 30 AFTE J. 86, 89 (1998).

90. *Id.* at 154.

91. *See id.* at 154–55; *see also* United States v. Green, 405 F. Supp. 2d 104, 108–09 (D. Mass. 2005) (allowing an expert's testimony regarding similarity between the casings found at the scene and the test casings fired from the pistol in question, but refusing to allow the expert to testify that the casings had come from the pistol at issue "to the exclusion of every other firearm in the world"); Susan D. Rozelle, Daubert, *Schmaubert: Criminal Defendants and the Short End of the Science Stick*, 43 TULSA L. REV. 597, 599–600 (2007) (explaining that "[t]ool mark evidence, wherein an expert testifies that the particular marks left by a harder object's impression on a softer one identify the exact harder object that left those marks" is controversial).

92. This "[a]nalysis of the images left by prints on the fingers, palms or soles is more properly known as 'friction ridge analysis.'" SHELTON, *supra* note 49, at 79.

93. *See id.*; STRENGTHENING FORENSIC SCIENCE, *supra* note 47, at 136, 142–45.

94. *See* STRENGTHENING FORENSIC SCIENCE, *supra* note 47, at 147.

95. *See* SHELTON, *supra* note 49, at 85–91.

96. *See, e.g.*, United States v. John, 597 F.3d 263, 274–75 (5th Cir. 2010) (explaining that, "in the context of fingerprint evidence, a *Daubert* hearing is not always required" and that, "in most cases, absent novel challenges, fingerprint evidence is sufficiently reliable to satisfy Rule 702 and *Daubert*" because it "has been tested in the adversarial system for over a century," "the error rate is low," and it "has been routinely subject to peer review"); United States v. Cooper, 91 F. Supp. 2d 79, 82 (D. D.C. 2000) ("Although the Court must ensure that expert testimony is reliable and admissible, there is nothing in *Kumho Tire* or

print evidence is admitted, it is difficult to overcome due to the weight it carries with juries.[97] As with other types of forensic evidence, a significant problem with fingerprint evidence is the way it is presented at trial—again, as either a "match" or "not a match" (or sometimes as "inconclusive").[98] Moreover, the use of fingerprint evidence at trial begs for more careful expert testimony.[99] These experts ought to refrain from testifying only to a "match" or "no match" and, instead, temper their language to more modest statements of what such a "match" really means statistically.[100] Existing research does not disprove fingerprint evidence, but further research is necessary to determine the extent to which an individual's fingerprints are actually unique and whether latent and known prints can be reliably matched by fingerprint examiners.[101]

5. *Arson Science*

A lack of scientific basis has also been discovered in some historically employed methodologies in arson science. Analysis of the causes of fires is typically conducted by people with field experience but without scientific training.[102] And such analyses have traditionally relied on arson indicators such as "crazed glass" and "pour patterns" suggesting that an accelerant had been applied to that area.[103] As researchers have studied how fires actually burn, though, they have learned that many of these regularly relied upon indicators of arson are unreliable and that there

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Daubert that requires the Court to conduct a pre-trial evidentiary hearing if the expert testimony [such as that regarding the reliability of fingerprint evidence] is based on well-established principles."); *see also* SHELTON, *supra* note 49, at 79 ("Courts have accepted the proposition that each person's fingerprint is unique and that fingerprint comparison is almost infallible as a means of forensic identification.").

97. *See* SHELTON, *supra* note 49, at 87 ("Most of the claims made by fingerprint examiners enjoy widespread belief among members of both the public and the bar."); Simon A. Cole, *More Than Zero: Accounting for Error in Latent Fingerprint Identification*, 95 J. CRIM. L. & CRIMINOLOGY 985, 1028 (2005) ("[B]ecause fingerprint evidence is much more persuasive, far better trusted, and presented to the jury in much stronger terms than microscopic hair comparison or serology ever were, fingerprint errors are probably far more likely to result in wrongful convictions and to go undetected if they do."); Jennifer L. Mnookin, *A Blow to the Credibility of Fingerprint Evidence*, BOSTON GLOBE, Feb. 2, 2004, at A14, http://www.boston.com/news/globe/editorial_opinion/oped/articles/2004/02/02/a_blow_to_the_credibility_of_fingerprint_evidence/ [http://perma.cc/UZ5H-V8UJ] ("Fingerprint evidence has enormous cultural power—in [one criminal defendant's] case, the prosecutor had said he was prepared to prosecute again, despite the exculpatory DNA findings, precisely because of that supposed fingerprint match."). *But cf.* STRENGTHENING FORENSIC SCIENCE, *supra* note 47, at 237 (suggesting that further research is necessary to better understand "[j]urors' use and comprehension of forensic evidence" and noting that "[j]uries frequently raise concerns about laboratory error and sample contamination, even when opposing counsel does not introduce such issues").

98. *See* Jennifer L. Mnookin, *The Validity of Latent Fingerprint Identification: Confessions of a Fingerprinting Moderate*, 7 LAW, PROBABILITY & RISK 127, 139 (2008).

99. *See id.* at 139.

100. *See* SHELTON, *supra* note 49, at 84–87; Mnookin, *supra* note 98, at 139–40.

101. *See* STRENGTHENING FORENSIC SCIENCE, *supra* note 47, at 139–45; Mnookin, *supra* note 98, at 140.

102. *See* SHELTON, *supra* note 49, at 137.

103. *See* Caitlin Plummer & Imran Syed, *"Shifted Science" and Post-Conviction Relief*, 8 STAN. J. C.R. & C.L. 259, 272–73 (2012).

may be explanations other than arson for these characteristics to appear in the wreckage of a fire.[104] For example, a "flashover"[105] could explain the burn lines that were once thought to indicate the presence of an accelerant.[106] And "crazed glass" is caused by the rapid cooling of heated glass—such as could occur when the glass is struck by a mist of water from a firefighter's hose.[107] Even after the National Fire Protection Agency began to dispel these arson indicator myths in 1992, many arson experts continued to cling to them, and officials have continued to use them to obtain arson convictions.[108]

6. "Shaken Baby Syndrome"

The use of "shaken baby syndrome" diagnoses in criminal cases provides an example of how continuing research can shed light on earlier scientific conclusions and the need to absorb such scientific advances into the criminal justice system. Historically, shaken baby syndrome was diagnosed when the "classic triad" of symptoms presented: retinal hemorrhages, subdural hemorrhages, and cerebral edema.[109] Shaken baby syndrome has frequently been used as evidence of child abuse, as it has been thought to indicate that an infant has been violently shaken by his caretaker.[110] Thousands of people have been convicted based on the "science" of shaken baby syndrome.[111] As more research has been conducted, though, perceptions have begun to change, and shaken baby syndrome has been called into doubt.[112] Although some debate persists in the medical community, the shift from the certainty of these diagnoses to doubt about them has been sufficient to bring about some change in the legal community.[113] Some courts have even considered the shift significant enough to be considered sufficient new evidence to warrant a new trial.[114]

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104. *See* Ryan, *supra* note 69, at 267–68.

105. A "flashover" may occur if a fire is allowed to burn inside of a closed room for an extended period of time. *See* Plummer & Syed, *supra* note 103, at 272. As the fire continues to burn, the smoke it produces forms a layer, and the temperature in the room rises significantly. *See id.* Once the temperature reaches about 1100°F, "the fire reaches a flashover point, where any item near the layer of smoke could combust." *Id.* This "post-flashover burning" can create burn patterns that, for years, arson experts thought indicated that accelerant had been poured in the area. *Id.* A better understanding of this flashover effect has "helped expose as false one of the main tools in the arsenal of fire investigators." *Id.*

106. *See* SHELTON, *supra* note 49, at 138; Plummer & Syed, *supra* note 103, at 272–73.

107. *See* John J. Lentini, *Behavior of Glass at Elevated Temperatures*, 37 J. FORENSIC SCI. 1358, 1362 (1992).

108. *See* Plummer & Syed, *supra* note 103, at 273.

109. *See id.* at 267; Deborah Tuerkheimer, *The Next Innocence Project: Shaken Baby Syndrome and the Criminal Courts*, 87 WASH. U. L. REV. 1, 11 (2009).

110. *See* Plummer & Syed, *supra* note 103, at 267.

111. *See id.*

112. *See id.* at 267–68.

113. *See id.*

114. *See id.* at 267–69; *see, e.g.*, State v. Edmunds, 746 N.W.2d 590, 598–99 (Wis. 2008) (concluding that "a shift in mainstream medical opinion since the [defendant's] trial as to the causes of the types of trauma [the deceased baby] exhibited" and the resulting "legiti-

B. Eyewitness Testimony

Science has also given us new insight on the complicated nature of eyewitness testimony. Once considered one of the most reliable forms of evidence, it has become somewhat suspect. Still, the use of eyewitness testimony can be incredibly damning at trial. For example, Calvin Willis, a Louisiana man, wrongly served over twenty-one years in prison for allegedly raping a ten-year-old girl—a conviction that was largely based on eyewitness testimony.[115] The victim and her two friends identified Willis as the perpetrator, although their accounts conflicted and changed as time passed.[116] The victim's mother's account was similarly inconsistent over time.[117] Still, Willis was convicted of raping the child.[118] Later, DNA samples from the victim's clothing excluded Willis as a DNA contributor, and prosecutors refused to re-prosecute.[119] The power of eyewitness testimony as seen in this case necessitates a better understanding of the reliability of this type of evidence.

Over time, we have learned more about human memory and therefore the reliability of eyewitness testimony. Memory is no longer conceptualized as akin to playing back a video; rather, memory is a reconstructive process in which individuals first deconstruct an event through filtered perceptions, then selectively store memories, and finally recall and reconstruct only a fraction of those memories.[120] Each of these three phases is critical to what a person remembers, and each phase has vulnerabilities, all of which contribute to the unreliability of eyewitness testimony.[121]

Perception is influenced by both the identity of the witness and the event the witness perceives.[122] Witness characteristics that may affect reliability include the witness's age, gender, drug consumption, and fear level.[123] Event factors may also affect reliability of the eyewitness. For example, trauma and stress tend to limit individuals' perceptions.[124] Although people sometimes assume traumatic experiences will be burned into their memories, it is more common that a traumatized victim, like the child in the Willis case, would be too overwhelmed to accurately re-

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mate and significant dispute within the medical community as to the cause of those injuries . . . constitutes newly discovered evidence" justifying a new trial).

115. *See Calvin Willis*, Innocence Project, http://www.innocenceproject.org/Content/Calvin_Willis.php [http://perma.cc/WB5D-DARG].

116. *See id.*

117. *See id.*

118. *See id.*

119. *See id.*

120. *See* Psychological and Scientific Evidence in Criminal Trials § 12:2, at 756–58 (2013).

121. *See id.*

122. *See* Elizabeth F. Loftus et al., Eyewitness Testimony: Civil and Criminal § 2-3, at 16 (5th ed. 2013).

123. *See id.* § 2-8, at 28, § 2-15[b], at 46.

124. *See id.* §§ 2-8–9, at 765–66; Psychological and Scientific Evidence in Criminal Trials, *supra* note 120, §§ 12:9–10. Stress and fear are also categorized as witness factors. *See* Loftus et al., *supra* note 122, §§ 2-8–9, at 28.

member any details about the perpetrator.[125] Relatedly, the involvement of weapons in a crime generally diminishes the reliability of a witness's memories about the event.[126] Witnesses also often have difficulty making cross-racial identifications, ordinarily making witness testimony in such circumstances less reliable.[127]

Beyond difficulties with perception, memories are also affected while they are stored.[128] New information may be conflated with old memories, and memories may flex to accommodate new conflicting information.[129] Memories also adapt to become consistent with what people believe.[130] Accordingly, a witness's testimony might change as he learns new facts.[131] This may not necessarily be an active process of consciously changing one's story but instead may be an actual shift in what that person remembers.[132] Relatedly, individuals' memories are better in the short-term; details are forgotten over time.[133] Therefore, skepticism of eyewitness testimony should be heightened in cases like Willis's—when a witness begins to remember further details as time passes—because later-recalled details are unlikely to accurately reflect memories of the event.[134]

Finally, memory recall can be undependable.[135] Recall may be affected by factors such as the identity of the questioner and the way in which the witness is questioned.[136] For example, whether the questioner is a "mere passerby" or a person of higher status can affect a witness's answer.[137] And open-ended questions tend to "yield more accurate, but less complete," answers than leading questions.[138] Suggestive interrogation can alter a witness's memory and is considered particularly dangerous in cases like those involving rape if there is no supporting physical evidence.[139] Also, as may be expected, children have been shown to be highly suggestible and can be easily influenced simply through leading questions or authoritative questioners,[140] which may also have contributed to the

125. *See* PSYCHOLOGICAL AND SCIENTIFIC EVIDENCE IN CRIMINAL TRIALS, *supra* note 120, § 12:9, at 765.

126. *See* LOFTUS ET AL., *supra* note 122, § 2-10, at 32–33; PSYCHOLOGICAL AND SCIENTIFIC EVIDENCE IN CRIMINAL TRIALS, *supra* note 120, § 12:9, at 765. This is known as "weapon focus." LOFTUS ET AL., *supra* note 122, § 2-10, at 32–33 (emphasis omitted).

127. *See* LOFTUS ET AL., *supra* note 122, § 4-13, at 100–01.

128. *See* PSYCHOLOGICAL AND SCIENTIFIC EVIDENCE IN CRIMINAL TRIALS, *supra* note 120, § 12:11, at 766–67.

129. *See id.* § 12:12, at 767.

130. *See id.*

131. *See id.*

132. *See id.*

133. *See id.* § 12:13, at 768.

134. *See id.*

135. *See id.* § 12:15, at 169.

136. *See id.*

137. *Id.*

138. *Id.*

139. *See id.* § 12:15–16, at 769, 772.

140. *See* LUCY S. MCGOUGH, CHILD WITNESSES: FRAGILE VOICES IN THE AMERICAN LEGAL SYSTEM 65–76 (1994); *cf.* JON'A F. MEYER, INACCURACIES IN CHILDREN'S TESTIMONY: MEMORY, SUGGESTIBILITY, OR OBEDIENCE TO AUTHORITY? 39 (1997) (suggesting that young children may not be much more suggestible than adults or older children but

unreliable testimony at issue in the Willis case.

All of these vulnerabilities of the perception, storage, and recall of memories pose difficulties for eyewitness identifications and testimonies. Improving the procedures used to elicit and employ these memories in the criminal justice system is an important piece of heightening the reliability of this evidence. For example, mug shot searches can sometimes cause retroactive interference by weakening a person's memory of the actual perpetrator.[141] If an eyewitness vaguely remembers a suspect or a few of his characteristics but is then exposed to dozens, or hundreds, of photographs, the eyewitness's memories may become diluted.[142] This ordinarily occurs only when the witness is presented with the mug shot again in a different context.[143] Moreover, mug shot searches can cause transference so that a person may seem to recall a face later, as in a lineup, when the person may actually be remembering that face from the mug shot search;[144] the witness may not recall the suspect when reviewing mug shots, but he may identify that suspect in the lineup because his memory of the suspect's mug shot transferred to his identification in the lineup.[145] Mug shot searches also raise issues of "commitment"—once a witness selects a suspect, he is unlikely to deviate from that choice later, even if it is erroneous.[146]

Another example of the effect of procedures on identification results is seen with the composition and administration of lineups. The individuals chosen to stand alongside a suspect in a lineup ("fillers") are important because a suspect may blend in or stand out; choosing fillers who match a pre-established description provided by the witness can reduce error rates.[147] In contrast, a poorly constructed lineup could allow even a non-witness to select the main suspect from the group by merely reading the witness's description.[148] Also, lineup instructions can bias identifications through improper suggestion.[149] In fact, such instructions can be so persuasive as to more than double a false identification rate.[150] Relatedly, police observation of lineups can distort eyewitness identifications if an officer either consciously or unconsciously provides subtle clues to the witness or confirms the witness's selection, which could influence the witness's confidence level during his later testimony.[151] Even employing traditional lineups rather than sequential ones can affect results because a witness choosing from a set group might presume the suspect is within the

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that, "[w]hen asked leading questions about minor details, . . . adults were significantly less suggestible than [children]").

141. *See* LOFTUS ET AL., *supra* note 122, § 4-6, at 85.
142. *See id.*
143. *See id.* at 85–86.
144. *See id.* at 86.
145. *See id.*
146. *See id.*
147. *See id.* § 4-8[b], at 90.
148. *See id.*
149. *See id.* § 4-9, at 91.
150. *See id.*
151. *See id.* § 4-10, at 92.

group and make a relativistic determination to select the possible offender.[152] In contrast, if a lineup is conducted sequentially—one potential suspect at a time—this additional possible source of error can be reduced.[153]

C. False Confessions

False confessions are a further source of potential error leading to wrongful convictions. Many people question why an innocent person would falsely confess, and there is a persistent myth that, in the absence of the extreme, physical, brutish interrogation tactics of decades past, people will not confess to crimes they have not committed.[154] This myth is particularly pervasive in the law enforcement community.[155] The unfortunate truth, however, is that modern psychological interrogation techniques continue to produce false confessions.[156] Indeed, false confessions are responsible for about 12% of known wrongful convictions.[157]

Perhaps contrary to one's initial impression, not only weak and intellectually disabled persons falsely confess, but, when interrogated, ordinary people also confess to serious crimes that they did not commit.[158] For example, Christopher Ochoa and Richard Danzinger both served nearly twelve years in prison for crimes neither of them committed after Ochoa succumbed to police pressure, confessing and implicating Danzinger.[159] Police officers had noticed that these suspects, who worked in the same restaurant as the victim, seemed to know details of the crime kept from the public.[160] On the advice of counsel, Ochoa accepted a plea bargain—receiving a life sentence in exchange for pleading guilty and testifying against Danzinger—when he was threatened with the death penalty.[161] Nearly twelve years later, though, another man confessed and came forward with details of the crime.[162] Additionally, sperm recovered from the crime scene was retested, and it excluded both Ochoa and Danzinger.[163] Ochoa and Danzinger were then exonerated.[164]

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152. *See id.* § 4-8[a], at 88–89.

153. *See id.*

154. *See* Richard A. Leo, Police Interrogation and American Justice 196 (2008).

155. *See id.* at 197.

156. *See id.* at 196–97; *supra* text accompanying note 14.

157. *See* Exonerations in 2013, *supra* note 14, at 17.

158. See Richard A. Leo, *False Confessions: Causes, Consequences, and Solutions*, *in* Wrongly Convicted: Perspectives on Failed Justice 36 (Saundra D. Westervelt & John A. Humphrey eds., 2001). One study found that fifteen out of sixty-two wrongful convictions resulted from false confessions. *See id.*

159. *See Christopher Ochoa*, Innocence Project, http://www.innocenceproject.org/Content/Christopher_Ochoa.php [http://perma.cc/33U2-K6QE]. They have both been exonerated.

160. *See id.*

161. *See id.*

162. *See id.*

163. *See id.*

164. *See id.*

As demonstrated in the Ochoa case, police officers may attempt to make a suspect's immediate situation seem graver than it is; they may try to make a suspect think that he has fewer options than he really does, and police officers may also exaggerate the consequences of these options.[165] Police officers are trained to instill a sense of hopelessness in the suspect and then offer him inducements to confess.[166] And interrogators are given broad leeway to accomplish this; they are allowed to exaggerate evidence or even lie.[167] Suspects are often presented with seemingly irrefutable proof of their guilt and convinced that they have no choice but to confess.[168] Once a suspect is sufficiently hopeless, interrogators begin to offer a way out; suspects are persuaded that maintaining their innocence will cost them more than confessing.[169] Various suspects require different levels of inducement to elicit a false confession.[170] Interrogators may simply suggest that confession will alleviate a suspect's conscience, or that family and friends will view the suspect as a better person for confessing.[171] Interrogators also might feign sympathy or attempt to downplay the crime as an accident or self-defense.[172] Or, interrogators might suggest that, if the suspect does not confess, he will be treated less sympathetically—that the interrogator and the prosecutor may be more hostile or aggressive.[173] Interrogators might also suggest that the suspect will receive a reduced sentence or other forms of leniency if he confesses.[174]

The pressures of interrogation contribute to false confessions for various reasons. So-called "stress-compliant" confessions occur when a suspect can no longer tolerate an interrogation and tries to escape by saying whatever he believes the interrogator wants to hear.[175] A "coerced-persuaded" confession occurs when a suspect begins to doubt his own memory and ultimately concludes that, based on the evidence presented, he *must* have committed the crime.[176] Individuals might also confess for the purpose of gaining notoriety, as with the hundreds of false confessions in the infamous Black Dahlia case, or as a result of a mental disorder.[177]

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165. *See* Leo, *supra* note 158, at 38.
166. *See id.* at 38–39.
167. *See id.* at 39.
168. *See id.*
169. *See id.*
170. *See id.*
171. *See id.* at 39–40.
172. *See id.* at 41.
173. *See id.* at 40.
174. *See id.*
175. *See id.* at 42.
176. *See id.* at 43.
177. *See id.* at 42; *see also Confessions Don't Mean Crime Has Been Solved*, NBCNEWS.COM (Aug. 19, 2006), http://www.nbcnews.com/id/14416492/ns/us_news-crime_and_courts/t/confessions-dont-mean-crime-has-been-solved/#.U9VMK00g9dg [http://perma.cc/S2Z2-B88P] ("More than 200 people confessed to the 1932 kidnapping and murder of Charles Lindbergh's infant son. The 1947 'Black Dahlia' murder—the slaying of aspiring actress Elizabeth Short, who was found naked and sliced in half in a vacant Los Angeles lot—attracted numerous spurious confessions."). Individuals might voluntarily confess—even in the absence of police questioning—for a variety of reasons: a morbid desire for notoriety, the need to expiate guilt about imagined as well as real acts, the need to receive attention

Foremost among the solutions to the problem of false confessions is promoting awareness of the problem. Police officers are under significant pressure to quickly and efficiently solve crimes, and they should not be overly handicapped in doing so. At the same time, an examination of interrogation techniques in light of the science of false confessions could prove useful. Training officers about the possibility and sources of false confessions could also reduce the number of false confessions leading to wrongful convictions. Judges and lawyers, too, should be aware that confessions are not necessarily conclusive of guilt.

D. Prosecutorial Team Actions

The preceding issues are not the only reasons that innocent people may be wrongfully convicted. In some circumstances, government actors may directly contribute to wrongful convictions. Although dedicated police officers and prosecutors are important to the maintenance of public safety, there are instances in which these actors may go too far. Many of these instances may result from guileless conduct, but it may still be harmful. In some cases, though, police officers and prosecutors cross the line and engage in professional misconduct. Some of this can perhaps be attributed to the adversarial nature of our legal system, which sometimes encourages government actors to push the limits of the law to secure convictions.

Putting aside the cases in which government actors knowingly engage in questionable conduct, some unintentional conduct by law enforcement also contributes to wrongful convictions.[178] For example, law enforcement officials sometimes—perhaps inadvertently—make improper suggestions to witnesses, thereby influencing the identification of a suspect.[179] Given the sensitive nature of identifications and how easily they can be influenced, unless strict protocols and training are in place, it is difficult to avoid police influence in these procedures.[180] Although coercing a confession would constitute professional misconduct, inducing a confession is a standard interrogation technique, but the two approaches are not always distinguishable.[181] Coercion tends to be a matter of de-

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or fame, the desire to protect or assist the real offender, an inability to distinguish between fantasy and reality, or a pathological need for acceptance or self-punishment." Leo, *supra* note 158, at 42.

178. *See* Susan A. Bandes, *Framing Wrongful Convictions*, 2008 J. Utah L. Rev. 5, 20–21 (2008); Leo, *supra* note 158, at 37.

179. *See* Leo, *supra* note 158, at 38; Melissa B. Russano et al., *"Why Don't You Take Another Look at Number Three?": Investigator Knowledge and Its Effects on Eyewitness Confidence and Identification Decisions*, 4 Cardozo Pub. Pol'y & Ethics J. 355, 358–59 (2006).

180. *See generally* Loftus et al., *supra* note 122, § 4 (explaining the difficulties of eyewitness identifications and how improved procedures can improve the reliability of these identifications).

181. *See* Welsh S. White, *Confessions Induced by Broken Government Promises*, 43 Duke L.J. 947, 952–53 (1994); Welsh S. White, *False Confessions and the Constitution: Safeguards Against Untrustworthy Confessions*, 32 Harv. C.R.-C.L. L. Rev. 105, 116–17 (1997).

gree; forms of coercion, like depriving a suspect of food or sleep, might be acceptable for hours but not days.[182] Likewise, inducement may amount to coercion if a suspect is not allowed to talk to family, friends, or an attorney for an excessive period of time.[183] While inducements are generally part of the plea-bargaining process, some inducements—such as paying a witness $10,000 for her testimony—likely cross over the line into the area of misconduct, although it is effectively the same type of inducement for testimony as a plea bargain.[184] Similarly, while some stereotyping—like excluding an elderly person as a physical threat—constitutes basic police work, other types—like racial profiling—are generally considered unacceptable.[185] But any time police officers exclude or include suspects based on their own stereotypes, this method is fraught with error.[186]

Some types of prosecutorial misconduct can be difficult to identify because part of a prosecutor's job is to zealously advocate on behalf of the

182. *See* SARA C. BENESH, THE U.S. COURT OF APPEALS AND THE LAW OF CONFESSIONS: PERSPECTIVES ON THE HIERARCHY OF JUSTICE 41 (2002).

183. *See id.*

184. *See* AM. BAR ASS'N, ABA STANDARDS FOR CRIMINAL JUST. PROSECUTION FUNCTION AND DEFENSE FUNCTION, Standards 3–3.2(a), 3–3.3(b) (1993) (stating that "[a] prosecutor should not compensate a witness, other than an expert, for giving testimony, but it is not improper to reimburse an ordinary witness for the reasonable expenses of attendance upon court, attendance for depositions pursuant to statute or court rule, or attendance for pretrial interviews" and that "[a] prosecutor should not pay an excessive fee for the purpose of influencing the expert's testimony or to fix the amount of the fee contingent upon the testimony the expert will give or the result in the case").

185. *See* R. Richard Banks, *Racial Profiling and Antiterrorism Efforts*, 89 CORNELL L. REV. 1201, 1211–12 (2004) (distinguishing between "racial profiling" and basic police work like "question[ing] individuals who matched the description of the alleged wrongdoer"); Dianne L. Martin, *The Police Role in Wrongful Convictions: An International Comparative Study*, *in* WRONGLY CONVICTED: PERSPECTIVES ON FAILED JUSTICE, *supra* note 158, at 77, 89 ("Patrol work, in particular, is designed to identify who or what doesn't fit, whether it is a black youth in a white neighborhood or some other shorthand picture of 'what should be there.' Detective work, on the other hand, stereotypes familiarity and is frequently an exercise in locating and processing 'typical' offenders who have committed the same crime many times before." (internal citations omitted)); Holly James McMickle, *Letting DOJ Lead the Way: Why DOJ's Pattern or Practice Authority Is the Most Effective Tool to Control Racial Profiling*, 13 GEO. MASON U. C.R. L.J. 311, 321 (2003) (explaining that the purpose of profiling—or engaging in "appropriate investigative techniques"—"is to allow police officers to pinpoint the same number of criminal offenders while detaining fewer people," thereby decreasing the cost of obtaining necessary information, and distinguishing this from "racial profiling"); *Illegal Profiling Policy*, POLICE OF ODESSA, http://www.odessapd.com/index.aspx?page=52 [http://perma.cc/UE35-N5Q4] (prohibiting profiling based on an individual's race, ethnicity, national origin, gender, sexual orientation, religion, economic status, or age); *Internal Affairs Division*, DALLAS POLICE DEP'T, http://www.dallaspolice.net/divisions/internalaffairs/racialProfiling.html [http://perma.cc/V3EQ-62WF] (explaining Texas's passage of a law prohibiting racial profiling). *See also generally* Dean A. Dabney et al., *The Impact of Implicit Stereotyping on Offender Profiling: Unexpected Results from an Observational Study of Shoplifting*, 33 CRIM. JUST. & BEHAV. 646 (2006), http://www.ccjs.umd.edu/sites/ccjs.umd.edu/files/pubs/Profiling_CJ_Behavior.pdf [http://perma.cc/7K6M-LVRW] (examining the extent to which offender profiling is based on biases such as race and gender).

186. *See* Martin, *supra* note 185, at 89. *See generally* Dabney et al., *supra* note 185 (examining the extent to which offender profiling is based on biases such as race and gender).

government.[187] Delivering misleading arguments, for example, is a tactic that could contribute to wrongful convictions.[188] Here, too, it may be difficult to know where the line should be drawn, as emphasizing specific points and trying to narrow a jury's focus are part of the prosecutor's job. Prosecutors also face questions about the extent to which they should rely on forensic reports when the technician has somewhat of a reputation for stretching his analyses to favor the prosecution.[189] This is one area in which prosecutors have some power to limit the errors that may have been created by unreliable forensic science.

One contributor to wrongful convictions is prosecutors' failure to disclose exculpatory evidence that is material to the defendant's guilt or punishment.[190] Of course *Brady v. Maryland*[191] states that this is a constitutional requirement, and legal ethics codes emphasize the importance of this disclosure.[192] There is often room for argument, though, as to whether certain evidence is material or actually exculpatory. Further, there is disagreement among lawyers as to whether only exculpatory evidence that is material must be disclosed or, rather, whether all exculpatory evidence should be disclosed but that there is only a constitutional remedy when the evidence withheld was material to guilt or punishment.[193]

While there are gray areas with much of the work done by police officers and prosecutors, there are some practices that are clearly impermissible but are nevertheless sometimes employed. For example, it certainly constitutes misconduct when police officers lie to judges or jurors about their observations or conduct, or lie to their own teams and fail to turn over exculpatory evidence.[194] Other common types of misconduct by

187. Of course prosecutors are also charged with achieving justice. *See, e.g.*, Berger v. United States, 295 U.S. 78, 88 (1935) ("The United States Attorney is the representative not of an ordinary party to a controversy, but of a sovereignty whose obligation to govern impartially is as compelling as its obligation to govern at all; and whose interest, therefore, in a criminal prosecution is not that it shall win a case, but that justice shall be done."); ABA STANDARDS, *supra* note 184, at Standard 3-1.2(c) ("The duty of the prosecutor is to seek justice, not merely to convict.").

188. *See Government Misconduct*, INNOCENCE PROJECT, http://www.innocenceproject.org/understand/Government-Misconduct.php [http://perma.cc/75YQ-69H7].

189. *See Government Misconduct*, *supra* note 188.

190. *See* Jon B. Gould & Richard A. Leo, *One Hundred Years Later: Wrongful Convictions After a Century of Research*, 100 J. CRIM. L. & CRIMINOLOGY 825, 854–55 (2010); *Government Misconduct*, *supra* note 188. Of course prosecutors also have an obligation to disclose certain impeachment evidence. *See* Giglio v. United States, 405 U.S. 150, 150–55 (1972); R. Michael Cassidy, *Plea Bargaining, Discovery, and the Intractable Problem of Impeachment Disclosures*, 64 VAND. L. REV. 1429, 1434 (2011).

191. 373 U.S. 83 (1963).

192. *See id.* at 86; *see, e.g.*, MODEL RULES OF PROF'L CONDUCT, R. 3.8 (2013) (stating that a "prosecutor . . . shall . . . make timely disclosure to the defense of all evidence or information known to the prosecutor that tends to negate the guilt of the accused or mitigates the offense").

193. Cassidy, *supra* note 190, at 1432.

194. *See* Russell Covey, *Police Misconduct as a Cause of Wrongful Convictions*, 90 WASH. U. L. REV. 1133, 1175–83 (2013); *Government Misconduct*, *supra* note 188; *see also* Kyles v. Whitley, 514 U.S. 419, 438 (1995) (stating that, "[s]ince . . . the prosecutor has the means to discharge the government's Brady responsibility if he will, any argument for ex-

prosecutors include the deliberate mishandling of evidence and pressuring defense witnesses not to testify.[195] Many of these problems may be byproducts of our adversarial system in which police forces and prosecutors face off against suspects and are pressured to solve and prosecute crimes while saddled with limited resources.[196] And this is exacerbated by the methods used to evaluate prosecutors' job performances, such as by measuring their conviction rates.[197]

As with other potential sources of error contributing to wrongful convictions, awareness of the potential for harm is the first step in addressing the problem. Beyond educating attorneys about these possible sources of error and better training, greater oversight for prosecutors and alternative incentives for both prosecutors and police officers might aid in correcting some of these problems.

E. Inadequate Defense Counsel

Inadequate defense counsel is another issue to be concerned about in the criminal justice system. With so many potential sources of wrongful conviction, vigilant defense attorneys are vital to avoid wrongful convictions. For example, knowledge and training are necessary to exclude, object to, and preserve error relating to the admission and use of forensic evidence.[198] A defense attorney should be able to challenge forensic science and eyewitness identifications with expert testimony about the reliability of these types of evidence.[199] A defense attorney should also be engaged throughout a suspect's journey through the criminal justice system to ensure lineups are conducted with appropriate safeguards, protect against coercive interrogation techniques, and defend against overzealous prosecution.[200] Unfortunately, defense attorneys are not always this vigilant.[201]

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cusing a prosecutor from disclosing what he does not happen to know about boils down to a plea to substitute the police for the prosecutor, and even for the courts themselves, as the final arbiters of the government's obligation to ensure fair trials.").

195. *See Government Misconduct*, *supra* note 188.

196. *See* Kenneth J. Melilli, *Prosecutorial Discretion in an Adversary System*, 192 B.Y.U. L. Rev. 669, 691 (1992) ("In the case of the prosecutor, the emphasis upon victory inherent in an adversary ethic not only motivates potential misconduct, but also steers the prosecutor inexorably toward a conviction psychology. As a result, the adversary process makes it difficult for the prosecutor to protect the innocent.")

197. *See* Daniel S. Medwed, *The Zeal Deal: Prosecutorial Resistance to Post-Conviction Claims of Innocence*, 84 B.U. L. Rev. 125, 134–37 (2004).

198. *See* Stephen B. Bright, *Legal Representation for the Poor: Can Society Afford This Much Injustice?*, 75 Mo. L. Rev. 683, 691 (2010) (explaining that resources, independence, training, and competent management are essential for public defenders to represent indigent defendants to the level "that justice requires"); Michele Nethercott, *Indigent Defense: Faulty Forensic Evidence*, 27 Champion 61, 61 (2003) ("The burden of responding to the ever-increasing use of complicated scientific evidence in the courtroom has been imposed disproportionately on public defenders. Very few private attorneys or their clients have the resources required to address the systemic issues presented by the misuse of complicated scientific evidence.").

199. *See* Gould & Leo, *supra* note 190, at 855–56.

200. *See id.*

201. *See id.*

One example of inadequate defense counsel leading to a wrongful conviction can be found in the case of Jimmy Ray Bromgard.[202] The government's rape case against Bromgard was penetrable; it consisted of: (1) victim testimony that she was "not too sure" that Bromgard was the perpetrator and (2) unsupported (and ultimately false) testimony that hair found at the crime scene was "indistinguishable" from Bromgard's hair.[203] Although this second piece of evidence might seem damning, effective lawyering could have exposed the inaccuracy of this testimony.[204] Instead, Bromgard's lawyer did not present an opening statement or prepare a closing one.[205] Further, he did no independent investigation and failed to hire an expert to contradict the State's flawed forensic evidence.[206] The attorney did not even file a motion to suppress the victim's shaky identification.[207] And the attorney then failed to appeal Bromgard's conviction.[208] Bromgard spent over fourteen years in prison before ultimately being exonerated by postconviction DNA testing.[209]

Most criminal defendants are represented by publicly funded counsel,[210] and the limits on resources available for these attorneys likely contribute to instances of ineffective assistance of counsel in criminal cases.[211] In the worst cases, defense counsel falls asleep at trial, fails to appear for hearings, or is disbarred shortly after working on a case.[212] But

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202. *See Jimmy Ray Bromgard*, INNOCENCE PROJECT, http://www.innocenceproject.org/Content/Jimmy_Ray_Bromgard.php [http://perma.cc/62DC-CSTX].

203. *See* State v. Bromgard, 862 P.2d 1140, 1141 (Mont. 1993) (stating that hair samples "Bromgard agreed to submit . . . were sent to the State Crime Laboratory and were found to be indistinguishable from certain samples recovered from the victim's bedding"); *Jimmy Ray Bromgard*, *supra* note 202; *see also* Garrett, *supra* note 70, at 84 ("In the case of Jimmy Ray Bromgard, [the expert] used made-up probabilities that he then improperly multiplied as follows: 'The odds were one in one hundred that two people would have head hair or pubic hair so similar that they could not be distinguished by microscopic comparison and the odds of both head and pubic hair from two people being indistinguishable would be about one in ten thousand.'" (internal alterations omitted)). A look at the resolution of Bromgard's various legal proceedings suggests that there was additional evidence pointing toward Bromgard's guilt. *See, e.g.*, State v. Bromgard, 901 P.2d 611, 612 (Mont. 1995) (noting that that the victim identified Bromgard in a lineup).

204. *See* Craig M. Cooley & Gabriel S. Oberfield, *Increasing Forensic Evidence's Reliability and Minimizing Wrongful Convictions: Applying* Daubert *Isn't the Only Problem*, 43 TULSA L. REV. 285, 306 (2007) (stating that the hair testimony, which "was the linchpin to the prosecution's successful case," was never challenged by Bromgard's attorney at trial); *Jimmy Ray Bromgard*, *supra* note 202.

205. *See Jimmy Ray Bromgard*, *supra* note 202.

206. *See id.*

207. *See id.*

208. *See id.*

209. *See id.*

210. *See* William J. Stuntz, *The Political Constitution of Criminal Justice*, 119 HARV. L. REV. 780, 815 (2006) ("About half of all criminal defendants were eligible for appointed counsel in 1980; by 1992 the figure was 80%, and it is probably higher today."). In New Orleans, Louisiana, for example, more than 80% of criminal defendants are represented by public defenders. *See* Editorial Board, *Federal Oversight on Public Defense*, N.Y. TIMES (Sept. 7, 2013), http://www.nytimes.com/2013/09/08/opinion/sunday/federal-oversight-on-public-defense.html?_r=0 [http://perma.cc/NQ6J-DR2S].

211. *See* Editorial Board, *supra* note 210.

212. *See Inadequate Defense*, INNOCENCE PROJECT, http://www.innocenceproject.org/causes-wrongful-conviction/inadequate-defense [http://perma.cc/Y7ME-86P6].

the current state of affairs makes good criminal defense difficult for even the best publicly funded lawyers. In some states, public defenders are working over 1,700 cases each year, including over 200 felony cases.[213] With only a few hours to dedicate to each case, it is understandable that these lawyers often adopt a transactional approach and for plea bargaining to be the norm. Publicly funded defense attorneys also tend to be poorly compensated.[214]Although some states offer an hourly rate of approximately $90 per hour, there may be caps in particular cases, such as the Virginia cap of $112 total for a juvenile felony case.[215] Such poor compensation disincentivizes attorneys from spending more time on each case.[216] It also tends to make recruitment and retention of experienced attorneys difficult.[217]

One manifestation of the inadequate resources indigent defendants and their counsel receive is the abundance of "meet 'em and plead 'em" lawyers.[218] One report found that more than 80% of indigent clients never met their attorneys out of court and were given pre-negotiated plea agreements when they finally met their attorneys at trial.[219] And a study of all felony cases in one county over a five-year period found that over 40% of cases were resolved by a guilty plea on the day of arraignment at the same time clients first met their attorneys.[220] Sadly, though, many defendants are not even appointed counsel in time for their first appearances.[221] Some jurisdictions admit to thousands of such unconstitutional failures each year.[222]

The compensation for publicly funded defense attorneys is also often significantly less than the compensation for the district attorneys prosecuting the cases.[223] Because the prosecution often has greater resources, it is not uncommon for there to be more, and better qualified, prosecutors working on a particular case.[224] Recognizing these problems and the need for greater funding for indigent defense, former Attorney General Janet Reno explained that this defense work is an "essential element of

213. *See* NORMAN LEFSTEIN, SECURING REASONABLE CASELOADS: ETHICS AND LAW IN PUBLIC DEFENSE 18 (2011), http://www.americanbar.org/content/dam/aba/publications/books/ls_sclaid_def_securing_reasonable_caseloads.authcheckdam.pdf [http://perma.cc/R3ZC-S9HC].

214. *See* AM. BAR ASS'N, GIDEON'S BROKEN PROMISE: AMERICA'S CONTINUING QUEST FOR EQUAL JUSTICE 9 (2004), http://www.americanbar.org/content/dam/aba/administrative/legal_aid_indigent_defendants/ls_sclaid_def_bp_right_to_counsel_in_criminal_proceedings.authcheckdam.pdf [http://perma.cc/YH5X-9TM9].

215. *See id.*

216. *See id.* at 7.

217. *See id.* at 9.

218. *See id.* at 16.

219. *See id.*

220. *See id.*

221. *See id.* at 26.

222. *See id.*

223. *See id.* at 13–14.

224. *See id.* at 10, 14.

the criminal justice process" and that it is necessary to the legitimacy of convictions.[225]

F. INFORMANTS

Testimony by informants is yet another potential source of wrongful convictions. Estimates of wrongful convictions involving false informant testimony range from 20% to 50%.[226] Broad police authority and prosecutorial discretion allow the government to easily induce offenders to become informants.[227] Fear of prosecution is probably the leading motivation for informants to testify.[228] Prosecutors also secure testimony through contingent "fee" agreements.[229] Under such agreements, prosecutors offer witnesses lenient plea bargaining, grants of immunity, and sometimes even government subsidies to testify against a defendant.[230] Although providing witnesses with such inducements could encourage false testimony against a defendant, contingent fee agreements are generally upheld unless there is direct evidence of perjury.[231] If there is an "invitation to . . . commit perjury," though—such as when the informant can trigger his contingent benefits only by achieving a particular outcome—some courts might find a violation of due process.[232] Such result-oriented contingency agreements have been subjected to greater scrutiny.[233]

In some instances, complex schemes to exchange perjured testimony for benefits like more lenient sentencing have been uncovered. Take, for example, the story of Ann Colomb. In 2006, she and her three sons were convicted in federal court for "allegedly running one of the largest crack cocaine operations in Louisiana."[234] Much of the testimony at trial was from jailhouse informants who had purchased documents and photographs to help fabricate testimony in the hope of receiving reduced

225. *Id.* at 13.

226. *See* ALEXANDRA NATAPOFF, SNITCHING: CRIMINAL INFORMANTS AND THE EROSION OF AMERICAN JUSTICE 70 (2009).

227. *See id.* at 46–50.

228. *See* DENNIS G. FITZGERALD, INFORMANTS AND UNDERCOVER INVESTIGATIONS: A PRACTICAL GUIDE TO LAW, POLICY, AND PROCEDURE 22 (2007). Some informants, however, are motivated by merely their senses of civic duty. *See id.* at 25.

229. *See id.* at 94–95.

230. *See* George C. Harris, *Testimony for Sale: The Law and Ethics of Snitches and Experts*, 28 PEPP. L. REV. 1, 1 (2000) (stating that "compensation (either immunity from prosecution, reduced charges, sentence reduction, or cash) by the government to cooperating witnesses in criminal prosecutions" is an exception to the "general rule [that] payments to witnesses in return for testimony are considered unethical and illegal" and that use of this exception is far from rare).

231. *See* FITZGERALD, *supra* note 228, at 95.

232. *See id.* at 95–96.

233. *See id.* at 96–97.

234. Randy Balko, *Guilty Before Proven Innocent*, REASON.COM (Apr. 14, 2008, 12:00 PM), http://reason.com/archives/2008/04/14/guilty-before-proven-innocent/print?utm_source=huffingtonpost.com&utm_medium=referral&utm_campaign=pubexchange_article [http://perma.cc/Z53G-4S7F]; *see* United States v. Colomb, 448 F. Supp. 2d 750, 753 (W.D. La. 2006) (noting these convictions).

sentences.[235] While the Colombs were in jail awaiting sentencing, evidence of the unreliability of the jailhouse informants' testimony was uncovered, and all of the charges against the Colombs were dismissed.[236]

G. Explicit and Implicit Bias

Another factor possibly contributing to wrongful convictions is the presence of biases in any step of the process.[237] While explicit biases of racism, sexism, and the like are clearly problematic, there is also the concern about the pernicious implicit biases that exist throughout the criminal justice system.[238] Implicit biases are "attitudes or stereotypes that affect our understanding, decisionmaking, and behavior, without our even realizing it."[239] In many circumstances, these biases—in particular many of our unconscious cognitions about race, sex, and ethnicity—are problematic and pose difficulties for the fair administration of our criminal justice system.[240] These unconscious biases can affect everyone in a legal proceeding, from the police, to the prosecutor, to the judge and jury.[241] For example, police officers' implicit biases could affect who they view as suspect and how they exercise their discretion in employing searches and arrests.[242] Judges might be similarly biased against certain types of claims, particular litigants, or particular attorneys, without even being aware of it, and these biases could potentially affect the outcomes of objections, motions, convictions, and appeals.[243] A juror could also be biased and thus skew the outcome of a trial.[244] Witnesses' biases could

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235. *See* Balko, *supra* note 234.

236. *See id.*

237. *See, e.g.*, Kristin A. Lane et al., *Implicit Social Cognition and Law*, 3 Ann. Rev. L. & Soc. Sci. 427, 439 (2007) ("Implicit biases appear to be widespread . . . ."). Bound up with this concept of bias is that of heuristics. *See* Chad M. Oldfather, *Heuristics, Biases, and Criminal Defendants*, 91 Marq. L. Rev. 249, 251 (2007). According to Professor Oldfather, heuristics are "mental shortcuts . . . that generate behavior that, while often at least roughly in accord with the prescriptions of rationality, will systematically depart from it in significant ways." *Id.* Biases are "distortions in our thought . . . that render us unable to rationally assess the information with which we are presented." *Id.*

238. Some scholars argue that it is difficult to distinguish between explicit and implicit biases. *See* Ralph Richard Banks & Richard Thompson Ford, *(How) Does Unconscious Bias Matter?: Law, Politics, and Racial Inequality*, 58 Emory L.J. 1053, 1058 (2009).

239. Jerry Kang et al., *Implicit Bias in the Courtroom*, 59 UCLA L. Rev. 1124, 1126 (2012).

240. *See id.* at 1128–29; Lane et al., *supra* note 237, at 429.

241. *See* Debra Lyn Bassett, *Deconstruct and Superstruct: Examining Bias Across the Legal System*, 46 U.C. Davis L. Rev. 1563, 1564 (2013); *see also* Kang et al., *supra* note 262, at 1130–31, 1135–51 (explaining that research demonstrates that "implicit bias is pervasive (widely held), large in magnitude (as compared to standardized measures of explicit bias), dissociated from explicit biases . . . , and predicts certain kinds of real-world behavior," and stating that "implicit biases can have an important impact" throughout the process of investigating and adjudicating a criminal case).

242. *See* Kang et al., *supra* note 239, at 1135.

243. *See* Bassett, *supra* note 241, at 1564.

244. *See id.*; *see also* Kang et al., *supra* note 239, at 1144–45 (summarizing a study by Levinson and Young "suggest[ing] that implicit bias . . . was influencing how jurors assessed the evidence in [a] case").

affect their memories and thus their testimony in court.[245] Even a defendant's own implicit biases could skew his individual perception of the fairness of a proceeding.[246]

One of the major sources of information about the existence of implicit biases comes from the Implicit Association Test (IAT).[247] In this test, subjects are asked to "rapidly classify individual stimuli into" particular categories, and the subjects' rates of classification are then measured.[248] For example, subjects are asked to categorize images of individuals' faces as either "African American" or "European American."[249] They are also asked to categorize particular words, like "glorious" or "nasty" into categories of "Good" or "Bad."[250] Subjects are then asked to sort individuals' faces and particular words into categories of "African American or Good" or "European American or Bad."[251] They are similarly asked to sort individuals' faces and particular words into categories of "European American or Good" or "African American or Bad."[252] The subjects' implicit biases are then measured based on how their speeds and accuracies vary as particular racial groups are associated with "Good" or "Bad."[253] Social scientists rely heavily on this test in assessing implicit biases,[254] and it is a useful resource because the test is easily accessible to anyone with internet access. In fact, over five million individuals have taken the test.[255] It is useful to examine one's own potential biases, so we urge everyone to take the test. Many people are surprised by their results.

The results of individuals who have taken the IAT are stark. According to the data, implicit biases are prevalent.[256] The data show that subjects generally "preferred socially privileged groups (young over old, white over black, . . . abled people over disabled people, [etc.])," but the extent to which subjects possessed these biases varied.[257] "Members of privileged groups overwhelmingly show[ed] ingroup preference."[258] And even some individuals who are not members of privileged groups exhibited biases in favor of privileged groups. For example, "people of . . . Asian . . . and Hispanic descent implicitly preferred white over black," and "equal numbers of black participants preferred the outgroup white as preferred

245. *See* Bassett, *supra* note 241, at 1564.
246. *See id.*
247. *See* Lane et al., *supra* note 237, at 433 ("With over 5 million tests completed, this is the largest repository of data available to look at variability and frequency of [implicit social cognitions].").
248. *See id.* at 431; *Take a Test*, PROJECT IMPLICIT, https://implicit.harvard.edu/implicit/takeatest.html [http://perma.cc/F2VH-H8X5].
249. *See Take a Test*, *supra* note 248.
250. *See id.*
251. *See id.*
252. *See id.*
253. *See id.*
254. Lane et al., *supra* note 237, at 433.
255. *See id.*
256. *See id.*
257. *See id.*
258. *Id.* at 435.

the ingroup black."[259]

Social scientists have also studied the implicit biases of police officers and judges. Their experiments suggest that both police officers and judges, like other Americans, possess implicit biases.[260] Moreover, these biases have also been shown to predict individuals' behaviors.[261] For example, police officers' biases appear to affect their actions.[262] It is less clear that judges' decisions are regularly affected by their implicit biases, though. Still, one group of researchers found that judges with greater implicit biases against blacks generally sentenced racially unidentified defendants more harshly when they had been primed to think about blacks prior to sentencing.[263] Providing some hope for limiting how these biases might affect decisionmaking, though, studies suggest that implicit biases can possibly be reduced or at least that decisionmakers, provided proper motivation, are capable of compensating for their biases.[264]

III. LIMITED ERROR CORRECTION ON APPELLATE REVIEW

As can be seen, the bulk of these traps for wrongful conviction surface at either the investigation or trial court stage. Once a wrongful conviction has occurred, it often becomes very difficult to correct it. Even though there are numerous possible sources of error and it is well known that some individuals have indeed been found to have been wrongfully convicted, judges are limited in how they can address these problems once an individual has been convicted. Appellate judges' hands are bound by the limitations of standards of review and the constrictions of postconviction procedures. Moreover, some judges are inundated with defendants' claims that they have been wrongfully convicted, and the resources that can be spent examining these claims are often in short supply. Further, there is a limit to how many times a defendant's conviction can be revisited. Some sense of finality in convictions is probably necessary to have a

259. *Id.* at 433. However, "black participants did not, on average, show ingroup preference." *Id.*

260. *See* Joshua Correll, *Across the Thin Blue Line: Police Officers and Racial Bias in the Decision to Shoot*, 92 J. PERSONALITY & SOC. PSYCHOL. 1006, 1020–22 (2007); Jeffrey J. Rachlinski et al., *Does Unconscious Bias Affect Trial Judges?*, 84 NOTRE DAME L. REV. 1195, 1209–11 (2007).

261. *See* Lane et al., *supra* note 237, at 436–37.

262. *See* Correll, *supra* note 260, at 1020–22; Kang et al., *supra* note 239, at 1139 ("[W]e have evidence that suggests that implicit biases could well influence various aspects of policing.").

263. *See* Rachlinski et al., *supra* note 260, at 1211–15 (finding that "[j]udges' scores on the race IAT had a marginally significant influence on how the prime influenced their judgment"); *see also* Kang et al., *supra* note 239, at 1147 (summarizing the study and results). Before hypothetically sentencing the racially unidentified defendants, the judges were exposed to "Black words" at a rate too fast for them to consciously process. *See* Rachlinski et al., *supra* note 260, at 1212.

264. *See* Lane et al., *supra* note 237, at 437; Rachlinski et al., *supra* note 260, at 1226–31.

stable system of justice.[265] Indeed, there is likely "a psychological benefit to society inherent in preserving finality—the notion that justice has been done."[266] Further, finality is said to further the government's "punitive interests," deterrence, rehabilitation, limiting victims' pain, encouraging attorneys to try their cases well the first time, and fostering quality judging.[267]

A. Challenged Convictions on Direct Appeal

Appellate judges facing claims related to wrongful conviction are in a difficult position. First, actual innocence generally is not a cognizable independent claim on appeal.[268] Instead, defendants must in most instances resort to claims focused on procedural irregularities that occurred at trial or during plea bargaining.[269] Further, appellate judges are generally not authorized to engage in new factfinding on direct appeal.[270] Instead, appellate courts are most often bound by the factual findings of the court below.[271] Relatedly, appellate judges are also ordinarily allocated a fairly narrow scope of review. Instead of the rigorous proof-beyond-a-reasonable-doubt standard that is the hurdle to conviction in a trial court, most appellate court judges examining whether there was sufficient evidence to convict the defendant assess whether a rational factfinder could have found the defendant guilty beyond a reasonable doubt.[272] Some commentators have argued that this amounts to a "no evidence" standard such that a conviction will be upheld so long as there is *some* evidence of

265. *See* Ryan, *supra* note 69, at 277 (explaining that finality is said to be "important in establishing stability in the criminal justice system so that imprisonment and punishment are not constantly under attack by appeal or new litigation").

266. Meghan J. Ryan, *Finality and Rehabilitation*, 4 Wake Forest J.L. & Pol'y 121, 127 n.32 (2014); *see* Paul M. Bator, *Finality in Criminal Law and Federal Habeas Corpus for State Prisoners*, 76 Harv. L. Rev. 441, 452–53 (1963); J. Friendly, *Is Innocence Irrelevant? Collateral Attack on Criminal Judgments*, 38 U. Chi. L. Rev. 142, 149 (1970).

267. *See* Ryan, *supra* note 69, at 276–77; Ryan, *supra* note 266, at 127 n.32.

268. *See* Keith A. Findley, *Innocence Protection in the Appellate Process*, 93 Marq. L. Rev. 591, 602 (2009).

269. *See id.*

270. However, in some states, appellate courts engage in factfinding when reviewing a collateral attack on a conviction. *See* Tex. Const. art. V, § 5 (stating that the Texas Court of Criminal Appeals "shall have the power upon affidavit or otherwise to ascertain such matters of fact as may be necessary to the exercise of its jurisdiction" to issue writs of habeas corpus and "writs of mandamus, procedendo, prohibition, and certiorari").

271. *See* Findley, *supra* note 268, at 605.

272. *See* Jackson v. Virginia, 443 U.S. 307, 319 (1979) ("[T]he relevant question is whether, after viewing the evidence in the light most favorable to the prosecution, *any* rational trier of fact could have found the essential elements of the crime beyond a reasonable doubt."); *see also, e.g.*, United States v. Frisby, 574 F. App'x 161, 163 (3d Cir. 2014) ("The critical inquiry on review of the sufficiency of the evidence to support a criminal conviction is whether, after viewing the evidence in the light most favorable to the prosecution, *any* rational trier of fact could have found the essential elements of the crime beyond a reasonable doubt." (internal quotations and alterations omitted) (quoting Jackson, 443 U.S. at 318–19)); United States v. Nguyen, 758 F.3d 1024, 1029 (8th Cir. 2014) ("The relevant question is whether, after viewing the evidence in the light most favorable to the prosecution, *any* rational trier of fact could have found the essential elements of the crime beyond a reasonable doubt.") (internal quotations and alterations omitted) (quoting Jackson, 443 U.S. at 319)).

guilt.[273] Indeed, it has been argued that this standard is inadequate to safeguard the rights of those wrongfully convicted because the evidence shows that over 1,304 individuals have been wrongfully convicted in the United States, and many of them were unsuccessful in having their convictions overturned under this rather deferential standard of review.[274]

Of course there are perhaps good reasons for this deferential standard of review on appeal. Factfinders are ordinarily considered to be in a better position than appellate judges to view the witnesses and assess the defendant's behavior at trial. Appellate judges, in contrast, can base their conclusions on only the cold record of the case. Further, to the extent that criminal justice is supposed to reflect the moral intuitions of the community it serves, jurors—being more representative of the community than appellate judges—are in a better position to determine questions such as whether the defendant has indeed committed an unlawful killing of a person while in the heat of passion or whether the defendant was justified in using force to defend himself.[275]

Even beyond issues of the standard of review, defendants claiming wrongful conviction face other hurdles on appeal. For example, many errors are waived if not properly preserved through objections at trial.[276] While this challenge is not unique to defendants claiming wrongful conviction, this problem of preservation may be exacerbated in the wrongful conviction context, as these defendants may very well have landed behind bars as a result of less than adequate counsel at trial. And establishing ineffective assistance of counsel is quite difficult to do. For example, in a recent case, the Washington Supreme Court found that there was no deficient performance and it was instead a tactical decision, when defense counsel failed to request an instruction on a lesser included offense.[277] It has also been suggested that defendants claiming wrongful conviction

273. *See* Findley, *supra* note 268, at 631–32; *see also* RICHARD A. POSNER, HOW JUDGES THINK 113–114 (2008) ("Opinions recite a variety of standards of review—plenary, clearly erroneous, . . . some evidence, . . . and so forth—but the gradations of deference that these distinctions mark are finer than judges want, can discern, or need. The only distinction the judicial intellect actually makes is between deferential and nondeferential review.").

274. *See* EXONERATIONS IN 2013, *supra* note 14, at 1 (reporting that there have been at least 1,304 exonerations); Findley, *supra* note 268, at 592 ("Unfortunately, judging by the recent evidence, especially the empirical evidence from cases in which post-conviction DNA testing has proved that an innocent person was wrongly convicted, the appellate process in criminal cases is largely a failure on this most important score [of protecting against wrongful conviction].").

275. *See* Meghan J. Ryan, *Juries and the Criminal Constitution*, 65 ALA. L. REV. 849, 872, 874–80 (2014).

276. *See* Findley, *supra* note 268, at 608.

277. *See* State v. Witherspoon, 329 P.3d 888, 894 (Wash. 2014) (en banc). As Professor Luban has explained, some "public defenders bitterly refer to the *Strickland v. Washington* test of ineffective assistance of counsel, which requires a showing of prejudice, as the 'warm body' test – in all but the most egregious cases, any defense counsel still capable of fogging a mirror will be 'effective.'" David Luban, *Are Criminal Defenders Different?*, 91 MICH. L. REV. 1729, 1740 (1993).

face the hurdle of judicial bias on appeal.[278] Beyond the fact that the law views them as guilty, judges may unconsciously view defendants claiming wrongful conviction more skeptically simply because they have been convicted at trial.[279] Further, appellate judges may be swayed by political pressure.[280]

Ultimately, appellate judges facing questions of wrongful conviction are limited in their abilities to address questionable convictions. Even if they suspect that a defendant is innocent, they generally apply a standard of review that favors affirming the conviction, cannot engage in new factfinding, and are limited to correcting procedural errors below.[281] Further, there are concerns that the defendant may have waived his claim at trial, even though this may have been more the fault of the defendant's attorney than his own.[282] And appellate judges might be unconsciously swayed by the fact that the defendant has already been convicted.[283] All of these matters are of course not only difficulties for the appellate judge, but they are significant hurdles that the actually innocent convicted defendant face also faces.

B. Collateral Attacks on Convictions

If a defendant's appeal is unsuccessful, he may possibly challenge his conviction by filing for postconviction relief, including a writ of habeas corpus. All states provide for some type of postconviction collateral attack on a conviction.[284] Postconviction relief is ordinarily quite limited,

278. *See* Findley, *supra* note 268, at 605–06. Professor Findley has explained that, for example, "[o]n appeal, confirmation bias is likely to lead reviewing courts—which begin with the knowledge that the defendant has been found guilty beyond a reasonable doubt—to interpret information about the case in a manner that is consistent with that conclusion." *Id.*

279. *See id.* at 606. Professor Findley explains:

> On appeal in a criminal case, [cognitive] biases can make it more likely for a court to find harmless error, or a lack of prejudice in an ineffective counsel or Brady violation case, because the defendant's guilt looks more inevitable in hindsight than it might have actually appeared prior to trial. Research has confirmed that, indeed, judges (like all human beings) are susceptible to such biases. These biases are likely reflected in the many cases in which appellate courts have expressed confidence that the defendants before them were guilty, or that the evidence of guilt was "overwhelming," even where DNA later proved that the defendants were in fact innocent.

Id.

280. *See id.* According to Professor Findley:

> [P]olitical pressures make it difficult for courts to reverse convictions, especially in serious cases. No court wants to be responsible for releasing a defendant convicted of a serious crime and risk the fallout should the defendant commit another crime. The empirical evidence indicates that pressures to be "tough on crime" do have a significant impact on judges, especially in jurisdictions, like most, where the judges are elected.

Id.

281. *See id.* at 602–05.

282. This could provide a ground for an ineffective assistance of counsel claim.

283. *See* Findley, *supra* note 268, at 605–06; *supra* note 278.

284. *See generally* Donald E. Wilkes, Jr., State Postconviction Remedies and Relief Handbooks with Forms (2013–2014 ed. 2013) (outlining postconviction procedures for all of the states).

though, and a defendant may often be limited to pursuing only particular issues in such a petition. For example, defendants ordinarily risk waiving the ability to raise certain issues via postconviction relief if they have not first raised them on direct appeal.[285] The interests of finality undergird such limitations.[286]

1. Federal Postconviction Proceedings

In the federal system, both district and appellate court judges may entertain writs of habeas corpus.[287] The circumstances under which these writs may be granted, though, are quite narrow. This is because finality of convictions and sentences was important to Congress's passage of the Anti-terrorism and Effective Death Penalty Act of 1996 (AEDPA), which governs federal habeas petitions.[288] Reflecting this premium on finality, habeas petitioners in custody pursuant to state court judgments must generally exhaust state court remedies before pursuing a federal habeas petition,[289] and their federal habeas petitions are subject to a one-year statute of limitations.[290] Further, a court may grant these petitioners' writs only if the relevant state court proceeding resulted in a decision that was "contrary to, or involved an unreasonable application of, clearly established Federal law, as determined by the Supreme Court" or "based on an unreasonable determination of the facts in light of the evidence presented in the State court proceeding."[291] The federal court examining the habeas claim is also limited as to whether it may hold an evidentiary hearing on the claim,[292] and it must defer to state factfinding on relevant

285. *See* Felix S. Leslie, *Habeas Relief for Federal Prisoners*, 89 GEO. L.J. 1877, 1884 (2001) ("Failure to raise a claim at trial or on direct appeal will generally result in waiver of the claim."); *see also, e.g.*, Conover v. State, 942 P.2d 229, 230 (Okla. Crim. App. 1997) ("As we have said numerous times, the Post-Conviction Procedure Act was neither designed nor intended to provide applicants another direct appeal. The Act has always provided petitioners with very limited grounds upon which to base a collateral attack on their judgments. Accordingly, claims which could have been raised in previous appeals but were not are generally waived; and claims raised on direct appeal are res judicata." (internal citations omitted)).

286. *See supra* text accompanying notes 265–67.

287. *See* 28 U.S.C. § 2241.

288. *See* Woodford v. Garceau, 538 U.S. 202, 206 (2003) ("Congress enacted AEDPA to reduce delays in the execution of state and federal criminal sentences, particularly in capital cases, and to further the principles of comity, finality, and federalism." (internal quotations and citations omitted)).

289. *See* 28 U.S.C. § 2254(b).

290. *See* 28 U.S.C. § 2244(d).

291. 28 U.S.C. § 2254(d).

292. *See* 28 U.S.C. § 2254(e). The relevant statute provides:

> The court shall not hold an evidentiary hearing on the claim unless the applicant shows that—
>
> The claim relies on—
>
> a new rule of constitutional law, made retroactive to cases on collateral review by the Supreme Court, that was previously unavailable; or
>
> a factual predicate that could not have been previously discovered through the exercise of due diligence; and

issues of fact.[293] Defendants seeking habeas relief from federal court judgments similarly face fairly narrow possibilities for relief under AEDPA, as Congress has directed them in most instances to instead move their sentencing court to "vacate, set aside or correct the sentence."[294] These defendants are also subject to a one-year timeframe in which they may file such a motion.[295]

Whether the defendant is collaterally attacking a state or federal court judgment, AEDPA generally provides that only one such attempt may be made.[296] It allows "second or successive" petitions for writs of habeas corpus or motions to vacate, set aside, or correct the sentence in only very limited circumstances.[297] These second or successive attempts are ordinarily allowed only if: (1) the defendant can establish that his claim is based on "a new rule of constitutional law, made retroactive to cases on collateral review by the Supreme Court, that was previously unavailable,"[298] or (2) the claim is based on newly discovered evidence that, "if proven and viewed in light of the evidence as a whole, would be sufficient to establish by clear and convincing evidence that . . . no reasonable factfinder would have found the applicant guilty of the [underlying] offense."[299] These strict limits on second and successive petitions also reflect the paramount concern for finality of convictions and sentences.

The limitations on collateral attacks in the federal system are so significant that the Supreme Court has even indicated that demonstrably innocent defendants who cannot overcome these restrictions may possibly

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> the facts underlying the claim would be sufficient to establish by clear and convincing evidence that but for constitutional error, no reasonable factfinder would have found the applicant guilty of the underlying offense.

Id. § 2254(e)(2).

293. *See id.* § 2254(e)(1).

294. 28 U.S.C. § 2255. Some commentators gloss over the distinction between such a motion and a writ for habeas corpus under AEDPA. *See* Ryan, *supra* note 121, at 123 n.9.

295. *See* 28 U.S.C. § 2255(f).

296. *See* 28 U.S.C. § 2244.

297. *Id.* at § 2244(b)(2).

298. 28 U.S.C. § 2244(b)(2)(A) ("A claim presented in a second or successive habeas corpus application . . . that was not presented in a prior application shall be dismissed unless . . . the applicant shows that the claim relies on a new rule of constitutional law, made retroactive to cases on collateral review by the Supreme Court, that was previously unavailable . . . ."); 28 U.S.C. § 2255(h)(2) (providing that "[a] second or successive motion must be certified . . . by a panel of the appropriate court of appeals to contain . . . a new rule of constitutional law, made retroactive to cases on collateral review by the Supreme Court, that was previously unavailable").

299. 28 U.S.C. § 2244(b)(2)(B) ("A claim presented in a second or successive habeas corpus application . . . that was not presented in a prior application shall be dismissed unless . . . the factual predicate for the claim could not have been discovered previously through the exercise of due diligence; and . . . the facts underlying the claim, if proven and viewed in light of the evidence as a whole, would be sufficient to establish by clear and convincing evidence that, but for constitutional error, no reasonable factfinder would have found the applicant guilty of the underlying offense."); 28 U.S.C. § 2255(h)(1) (providing that "[a] second or successive motion must be certified . . . by a panel of the appropriate court of appeals to contain . . . newly discovered evidence that, if proven and viewed in light of the evidence as a whole, would be sufficient to establish by clear and convincing evidence that no reasonable factfinder would have found the applicant guilty of the offense").

have no remedy.[300] Although a claim of actual innocence, when paired with claims of constitutional error, may help a petitioner to overcome some of these procedural hurdles, freestanding claims of actual innocence likely will not survive.[301]

2. State Postconviction Proceedings

State postconviction proceedings vary greatly across jurisdictions. Some of them resemble federal postconviction proceedings. Others are more liberal in the types of claims that they allow to proceed and prevail. At least six states have now recognized a freestanding claim of actual innocence as viable on postconviction review.[302] The standards and procedures for making out a claim on this ground vary. For example, in Missouri, a freestanding claim of actual innocence is generally raised in a habeas petition.[303] And, unlike in federal court, a petitioner may file an original petition in the state's court of appeals.[304] This court may grant the writ without an evidentiary hearing so long as all of the evidence in the record makes a "clear and convincing showing of actual innocence that undermines confidence in the correctness of the judgment."[305] If the evidence on record is not sufficient, though, the appellate court may appoint a special master to conduct hearings on the matter.[306] In one such case, a special master conducted days of hearings and ultimately filed a report that was adopted by the appellate court.[307] Even if the trial court holds an evidentiary hearing and rejects the habeas petition, the petitioner may file an original writ with the court of appeals.[308] This was the approach taken in the *Ferguson* case, and, there, the court of appeals accordingly determined that it owed no deference to the trial court's find-

300. *See* McQuiggin v. Perkins, 133 S. Ct. 1924, 1931 (2013) ("We have not resolved whether a prisoner may be entitled to habeas relief based on a freestanding claim of actual innocence."); *see also* Herrera v. Collins, 506 U.S. 390, 400 (1993) ("Claims of actual innocence based on newly discovered evidence have never been held to state a ground for federal habeas relief absent an independent constitutional violation occurring in the underlying state criminal proceeding.").

301. *See McQuiggin*, 133 S. Ct. at 1931.

302. *See, e.g.*, State v. Beach, 302 P.3d 47 (Mont. 2013); Gould v. Comm'r of Corr., 22 A.3d 1196 (Conn. 2011); Dellinger v. State, 279 S.W.3d 282 (Tenn. 2009); Montoya v. Ulibarri, 163 P.3d 476 (N.M. 2007); Amrine v. Roper, 102 S.W.3d 541 (Mo. 2003) (en banc); People v. Washington, 665 N.E.2d 1330 (Ill. 1996); *Ex parte* Elizondo, 947 S.W.2d 202 (Tex. Crim. App. 1996) (en banc).

303. *See, e.g.*, Amrine, 102 S.W.3d at 543–44, 548.

304. *See* Ron Ribaudo, *Habeas Corpus in Missouri: A Critical Primer*, 65 J. Mo. B. 306, 310 (2009); *see also* Abel v. Wyrick, 574 S.W.2d 411, 416 (Mo. 1978) (en banc) ("While it would be more expeditious, and therefore more advantageous, in most instances, for a petition for a writ of habeas corpus to be made first to the circuit court in cases in which there is a dispute as to a factual issue, no rule requires that such a petition be first filed therein.").

305. *Amrine*, 102 S.W.3d at 543–44, 548.

306. *See* Mo. Sup. Ct. R. 68.03.

307. *See* Woodworth v. Denney, 396 S.W.3d 330, 332–33 (Mo. 2013) (en banc).

308. *See* Mo. Prac., Civil Rules Practice § 81.01:17 (2013); *cf.* Mo. Sup. Ct. R. 84.22(a) ("No original remedial writ shall be issued by an appellate court in any case wherein adequate relief can be afforded by an appeal or by application for such writ to a lower court.").

ings because the petition at issue was an original filing rather than an appeal.[309] In Illinois, freestanding claims of actual innocence arise under the state's postconviction statute.[310] So long as the claim of actual innocence makes a "substantial showing" that the petitioner is entitled to relief and is not patently without merit, the trial court will conduct an evidentiary hearing.[311] Any ruling as to whether a hearing or relief is warranted is subject to review by the appellate court.[312] Several other states seem to apply a procedure similar to that of Illinois.[313]

Although there has been some reluctance by federal courts to recognize freestanding claims of actual innocence, a number of state courts have done so, employing varying procedures and implementing differing burdens of persuasion. In these states, appellate courts seem to have some power to manage the factfinding process to ensure the efficient resolution of these claims, but they do not seem to be required, in most instances, to engage in additional factfinding or evidence gathering.

3. Other Issues Related to Collateral Attacks on Convictions

There are other impediments to appellate courts addressing collateral attacks on potential wrongful convictions. For example, defendants who pleaded guilty may find their access to postconviction remedies more limited than if they had not pleaded guilty.[314] And some states will not allow access to DNA evidence for postconviction relief if the defendant pleaded guilty at trial.[315]Another issue that defendants collaterally attacking their convictions face is significant difficulty gathering evidence of their innocence after conviction.[316] The Innocence Project reports that it quit pursuing nearly a quarter of its cases because the necessary evidence to establish innocence in the case had been either lost or destroyed.[317] Lost or destroyed evidence is unfortunately not an infrequent occurrence. Some jurisdictions lack the space to store the evidence and thus lawfully purge it, while in other instances, the evidence could be lost in overcrowded, and sometimes mismanaged, property rooms.[318] Even if the evidence has not been lost or destroyed, defendants face a burden of

309. *See* Ferguson v. Dormire, 413 S.W.3d 40, 50–52 (Mo. Ct. App. 2013) (granting the petition).

310. *See* People v. Washington, 665 N.E.2d 1330, 1331 (Ill. 1996).

311. People v. Lofton, 954 N.E.2d 821, 832 (Ill. App. Ct. 2011).

312. *See id.* at 834 (remanding for an evidentiary hearing on an actual-innocence claim).

313. *See, e.g.*, Gould v. Comm'r of Corr., 22 A.3d 1196, 1209 (Conn. 2011); Montoya v. Ulibarri, 163 P.3d 476, 487–88 (N.M. 2007).

314. *See* Rebecca Stephens, Disparities in Postconviction Remedies for Those Who Plead Guilty and Those Convicted at Trial: A Survey of State Statutes and Recommendations for Reform, 103 J. CRIM. L. & CRIMINOLOGY 309, 321–27 (2013).

315. *See id.* at 313–21; *Access to Post-Conviction DNA Testing*, INNOCENCE PROJECT, http://www.innocenceproject.org/Content/Access_To_PostConviction_DNA_Testing.php [http://perma.cc/42HP-PKYM].

316. *See id.*

317. *See DNA Exonerations Nationwide,* INNOCENCE PROJECT, http://www.innocenceproject.org/Content/DNA_Exonerations_Nationwide.php [http://perma.cc/EDY7-E7YL].

318. *See* Cynthia E. Jones, *The Right Remedy for the Wrongly Convicted: Judicial Sanctions for Destruction of DNA Evidence*, 77 FORDHAM L. REV. 2893, 2918 (2009).

showing entitlement to access the evidence.[319] Simply asking the state for permission to test DNA evidence, for example, may not be sufficient.[320] Today, all fifty states have legislated a postconviction right to access DNA evidence.[321] But some states have limited the circumstances in which such access is provided by, for example, denying access to defendants who pleaded guilty.[322]

IV. STEPS IN THE RIGHT DIRECTION

These limitations on appellate review emphasize the importance of addressing the root sources of wrongful conviction. And some progress has been made in this direction. Various jurisdictions have accepted that there is a problem and have attempted to reduce the risk of wrongful conviction by taking various new approaches to their criminal justice systems.

A. FORENSIC SCIENCE

Within the last decade, several jurisdictions have made progress in acknowledging and addressing how faulty forensic science can lead to wrongful convictions. For example, in 1994, the New York Legislature created a state commission on forensic science to provide training, accreditation, and oversight for state forensic science laboratories.[323] Similarly, in 2005, the Texas Legislature created the Forensic Science Commission following a series of cases that raised concerns about the use of forensic evidence in the state.[324] The Commission is charged with investigating "complaints that allege professional negligence or misconduct" relating to forensic analysis.[325]

At a national level, concerns about the uses of forensic science in the criminal justice system gained greater national recognition when the NAS released its report on strengthening forensic science in 2009.[326] Nearly five years later, in January 2014, the National Science Commission, which was proposed by the NAS report, was formed.[327] This Commission is comprised of "federal, state and local forensic science service providers;

319. *See* District Attorney's Office v. Osborne, 557 U.S. 52, 61–62 (2009) (holding that there is no constitutional due process right "to obtain postconviction access the State's evidence for DNA testing").

320. *See Access to Post-Conviction DNA Testing*, *supra* note 315.

321. *See id.*

322. *See id.*

323. *See* N.Y. EXEC. LAW §§ 995–995-f (2012); *About the Office of Forensic Services*, N.Y. ST. DIV. OF CRIM. JUST. SERV., http://www.criminaljustice.ny.gov/forensic/aboutofs.htm [http://perma.cc/G8DR-BF3X].

324. *See* TEX. CODE CRIM. PROC. ANN. art. 38.01 (West 2014); *About Us*, TEX. FORENSIC SCI. COMM'N, http://www.fsc.texas.gov/about [http://perma.cc/FF26-D8QV].

325. *About Us*, *supra* note 324; *see* TEX. CODE CRIM. PROC. ANN. art. 38.01.

326. *See supra* text accompanying note 36.

327. *See* Press Release, U.S. Dep't of Justice, U.S. Departments of Justice and Commerce Name Experts to First-ever National Commission on Forensic Science (Jan. 10, 2014), http://www.justice.gov/opa/pr/2014/January/14-at-029.html [http://perma.cc/AW77-XYX9].

research scientists and academics; law enforcement officials; prosecutors, defense attorneys and judges; and other stakeholders from across the country."[328] The Commission's aim is to collaborate with the National Institute of Standards and Technology to "ensure that the forensic sciences are supported by the most rigorous standards available."[329]

This greater recognition of the shortcomings of forensic science disciplines and the steps taken to shore up the use of forensic science in criminal cases could go a long way in cutting down on a significant source of wrongful convictions. Not only could it address the scientific matters at issue, but it could also alert practicing attorneys and judges to the difficulties posed by forensic science—as well as the powers of forensic science—so that they take greater caution in employing these techniques to convict and defend criminal defendants.

B. Eyewitness Testimony

There has also recently been greater recognition of the defects of eyewitness testimony, and some jurisdictions have taken measures to improve the reliability of this type of evidence used in criminal trials. Texas, for example, has enacted statutes directing police departments to take notice of scientific evidence about the failings of eyewitness testimony and strengthen their procedures for obtaining this evidence.[330] One statute offers a "model policy" for conducting eyewitness identification procedures but allows each law enforcement agency to adopt its own particular policy so long as it is based on "credible field, academic, or laboratory research on eyewitness memory" and, whenever practicable, the procedure is conducted by an unbiased administrator unaware of the identity of the suspect.[331] In addition to statutory solutions, some judges have participated in addressing the problems of eyewitness testimony by admitting expert testimony on the reliability—or lack of reliability—of this testimony. The Texas Court of Criminal Appeals, for example, has recognized the limitations of eyewitness testimony and has admitted such expert testimony to impeach eyewitness credibility.[332] Indeed, in *Blasdell v. State*,[333] the court reversed the lower court's ruling refusing to admit expert testimony about the "weapon focus effect"[334] in response to the victim-witness's identification of her mugger and testimony about the gun he used to attack her.[335] The court explained that the expert testimony should have been allowed because there was a "real 'possibility' that [the witness's] ability to make a reliable identification of the robber had been

328. *Id.*
329. *Id.*
330. *See* Tex. Code Crim. Proc. Ann. art. 38.20 (West 2014).
331. *See id.*
332. *See* Blasdell v. State, 384 S.W.3d 824 (Tex. Crim. App. 2012).
333. *Id.*
334. *Id.* at 831; *see supra* note 120 and accompanying text.
335. *See Blasdell*, 384 S.W.3d at 831; Jane Moriarty, Psychological and Scientific Evidence in Criminal Trials, 12:9 (2013).

compromised."[336] Still, while several jurisdictions have begun working on improving approaches to processes like lineups, more can be done on this front. For example, additional jurisdictions could adopt improved procedures for eyewitness identification based on recent research that speaks to the reliability of these techniques.

C. Prosecutors and Police Forces

Adjustments have also been made in the areas of prosecutor and police performance that may decrease the number of wrongful convictions. For example, some states have statutorily mandated open-file discovery rules, requiring the prosecution to share its information with the defendant.[337] Some states, like Texas, have also enacted legislation to codify and enhance the requirements of *Brady*. Under Texas law, prosecutors are now required to attend training relating to their duty to disclose exculpatory or mitigating evidence.[338] States have also implemented reforms such as requiring interrogations to be recorded[339] and changing lineup procedures so that they are less prone to erroneous identifications.[340]

In addition to these changes, empirical evidence suggests that prosecutors and law enforcement have increased their involvement in obtaining defendant exonerations. The last few years have shown the highest rates of cooperation from prosecutors and law enforcement so far, with prosecutors and law enforcement cooperating in 49% of exonerations in 2012 and 38% of exonerations in 2013.[341] Today, "[p]rosecutors and police are investing more time and resources in reviewing cases for evidence of wrongful convictions, often correcting the wrongdoing of predecessors."[342] A five-year investigation from 2007 to 2012 leading to the exoneration of Damon Thibodeaux is a prime example of such cooperation between prosecutors, law enforcement, and defense attorneys.[343] In Thibodeaux's case, both the district attorney and the sheriff worked together

336. *Blasdell*, 384 S.W.3d at 830.

337. *See, e.g.*, N.C. Gen. Stat. § 15A-903(a)(1) (2013) ("Upon motion of the defendant, the court must order . . . [t]he State to make available to the defendant the complete files of all law enforcement agencies, investigatory agencies, and prosecutors' offices involved in the investigation of the crimes committed or the prosecution of the defendant.").

338. *See* Tex. Gov't Code Ann. § 41.111 (West 2014).

339. *See, e.g.*, Wis. Stat. § 968.073(1)(c)(2) (2015) ("It is [generally] the policy of this state to make an audio or audio and visual recording of a custodial interrogation of a person suspected of committing a felony . . . .").

340. *See, e.g.*, N.C. Gen. Stat. § 15A-284.52 (2013) (setting forth a number of requirements that lineup procedures should meet, including being "conducted by an independent administrator" and having the eyewitness instructed that "[t]he perpetrator might or might not be presented in the lineup").

341. *See* Exonerations in 2013, *supra* note 14, at 3.

342. Elizabeth Barber, *Exonerations Climb in US, as Prosecutors, Police Probe Wrongful Convictions*, Christian Sci. Monitor, Feb. 4, 2014, http://www.csmonitor.com/USA/USA-Update/2014/0204/Exonerations-climb-in-US-as-prosecutors-police-probe-wrongful-convictions-video [http://perma.cc/UM5Q-FZ7B].

343. *See* Paul Purpura, *Angola Death Row Inmate Who Gave False Confession Released After 15 Years* (Sept. 28, 2012 10:06 PM), http://www.nola.com/crime/index.ssf/2012/09/marrero_man_whose_false_confes.html [http://perma.cc/A6RC-CFWX].

to help secure Thibodeaux's release after they were approached by defense attorneys.[344] The district attorney even consulted with a psychiatrist about Thibodeaux's case.[345] The joint investigation was described both as "extraordinary" and "unusual,"[346] but, given its success, it may become more mainstream in the future.

Addressing the pressures on police officers and lawyers is also an important aspect to targeting the problem of wrongful conviction. One approach would be to change the employment environments at station houses, prosecutors' offices, and public defenders' offices. Perhaps changing how effective work is assessed is part of the answer. Should police officers' rates of closing cases be rewarded? What about prosecutors' conviction rates? Or are there other ways to determine that an employee is doing a good job? One scholar has suggested that police departments' maintenance of open police case files—similar to the open file we see in some prosecutors' offices—could lend accountability to police work.[347] Another has suggested that prosecutors' offices need some oversight—perhaps through publicly available ratings of prosecutors' offices—so that "tough on crime" attitudes or conviction rates are not the only metrics by which these offices are viewed.[348] Perhaps publicly funded defense attorneys should also be evaluated in some way. Should, for example, a jurisdiction limit its employment of a publicly funded attorney if that attorney has been found to have been constitutionally ineffective in a previous case? Sufficient officer and lawyer training on the sources and prevalence of wrongful conviction could also contribute to these actors' more careful approaches in some cases.

D. Improving Assistance of Counsel

Although the Supreme Court's groundbreaking 1964 *Gideon v. Wainwright*[349] decision requires effective assistance of counsel for indigent defendants, the bar for what constitutes effective assistance has long been interpreted as quite low.[350] More recently, though, courts seem to be tak-

344. *See id.*

345. *See id.*

346. *See* Douglas A. Blackmon, *Louisiana Death-Row Inmate Damon Thibodeaux Exonerated with DNA Evidence,* Wash. *Post*, Sept. 28, 2012, http://www.washingtonpost.com/national/louisiana-death-row-inmate-damon-thibodeaux-is-exonerated-with-dna-evidence/2012/09/28/26e30012-0997-11e2-afff-d6c7f20a83bf_story.html [http://perma.cc/T6AR-D8BA].

347. *See* Dan Simon, In Doubt: The Psychology of the Criminal Justice Process 215, 217 (2012).

348. *See* Ronald F. Wright, *Beyond Prosecutor Elections*, 67 SMU L. Rev. 593, 610–15 (2014).

349. 372 U.S. 335 (1963).

350. *See* Lauren Sudeall Lucas, *Reclaiming Equality to Reframe Indigent Defense Reform*, 97 Minn. L. Rev. 1197, 1198 (2013). Professor Lucas has summarized:

In the years since the landmark right to counsel case *Gideon v. Wainwright* was decided, numerous studies have documented the plight of indigent defendants still trying to secure equal treatment, effective representation and a fair trial. Among other things, these studies have highlighted inadequate funding of indigent defense systems across the country and its results: the chronic appointment of "incompetent or inexperienced" counsel, severe delays

ing some steps to raise this bar.[351] In its 2014 case of *Hinton v. Alabama*,[352] for example, the Court found that a defense lawyer's failure to request additional funds to replace a deficient expert witness constituted deficient performance.[353] Hinton's attorney had failed to even investigate the state statutory allowance for defense funding which provided for greater reimbursement than he thought.[354] In analyzing the case, the Court was careful to differentiate the mere selection of a seemingly inadequate expert witness, which would ordinarily be within the realm of an attorney's strategic decisionmaking, to which the Court continues to defer, from the "unreasonable failure to understand the resources available to [the attorney]."[355] This seems to be a slightly less deferential approach to defense counsel than the Court has previously taken. And some lower courts may be similarly decreasing their deference in certain areas as well. In the case of *Correll v. Ryan*,[356] for example, the Ninth Circuit found ineffective assistance when defense counsel failed to sufficiently look into the defendant's "social background, including investigation of any family abuse, mental impairment, physical health history, and substance abuse history" for presentation in the penalty phase of a capital case.[357] And an appellate court in Maryland found ineffective assistance when defense counsel ceased his inquiry into a possible insanity defense for his client when a doctor concluded that there could be no such defense because the defendant had voluntarily ingested the phencyclidine (PCP) that led to "the bizarre circumstances of the murder" for which the defendant was convicted.[358] As a result, the lawyer also failed to discuss the possible defense with the defendant.[359]

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in the appointment of counsel, discontinuity of attorney representation, a lack of training and oversight for counsel representing indigents, excessive public defender caseloads and understaffing of public defender offices, inadequate or nonexistent expert and investigative resources for defense counsel, and a lack of meaningful attorney-client contact. In other words, they have revealed a two-tier system of justice in which the poor are subject to a completely separate and wholly underresourced experience.
Id.

351. *See* Christopher Durocher, *Are We Closer to Fulfilling Gideon's Promise?: The Effects of the Supreme Court's "Right-to-Counsel Term,"* AM. CONST. SOC'Y FOR L. & POL'Y: ISSUE BR., at 1, Jan. 2013, https://www.acslaw.org/sites/default/files/Durocher_-_Are_We_Closer_to_Fulfilling_Gideons_Promise.pdf [http://perma.cc/4WLV-CLKU] ("During the 2011-2012 Term, the United States Supreme Court handed down decisions in five cases that open the door to expanding and better protecting the availability of effective counsel in both the pre-trial and post-conviction stages of a criminal prosecution."); Stephen F. Smith, *Taking Strickland Claims Seriously*, 93 MARQ. L. REV. 515, 517 (2009) (arguing that "the Supreme Court's recent ineffectiveness decisions have finally begun to take the right to counsel as seriously as the access-to-counsel cases would require" and "mark a dramatic shift from prior practice before and after *Strickland*").

352. 134 S. Ct. 1081 (2014).

353. *See id.* at 1088.

354. *See id.*

355. *Id.* at 1089.

356. 539 F.3d 938 (9th Cir. 2008).

357. *Id.* at 943.

358. State v. Johnson, 794 A.2d 654, 667–68 (Md. Ct. Spec. App. 2002).

359. *See id.*

The State of Washington has seen its own unique development relating to ineffective assistance of counsel. In 2013, a federal district court in the state, in responding to a 42 U.S.C. § 1983 class action lawsuit brought by a class of criminal defendants,[360] identified systematic deficiencies in the Washington public defenders' program based on the enormous case loads of the attorneys.[361] After finding a colorable claim, the court granted injunctive relief attempting to improve the caseloads of public defenders so that they could adequately represent defendants.[362] Later, the state developed maximum workload standards for public defenders, which were implemented that same year.[363]

E. Informants

Another reform is to require corroboration for informant testimony.[364] Texas courts, for example, examine the sufficiency of informant testimony from accomplices or inmates by first excluding the testimony to determine if there is any other evidence tending to connect the defendant to the crime.[365] This approach, which differs from a typical inquiry into legal or factual sufficiency of the evidence, is a legislative attempt to control notoriously unreliable informant testimony.[366]

F. Reviewing Cases for Actual Innocence

As already suggested, all states provide some sort of postconviction avenue by which defendants can collaterally attack their convictions.[367] Some jurisdictions have recently been liberalizing some of these procedures. Since 2011, Texas has provided an avenue for relief based on certain scientific evidence discovered after trial.[368] The applicable statute mandates a writ of habeas corpus for relevant newly discovered evidence.[369] It requires relief if the court finds by a preponderance of the evidence that, had the new evidence been presented at trial, a conviction would not have occurred.[370]

Beyond procedural mechanisms for reviewing convictions, jurisdictions have made strides to address the problem of wrongful conviction. In 2006,

360. Wilbur v. City of Mount Vernon, 989 F. Supp. 2d 1122, 1131 (W.D. Wash. 2013).
361. *See id.*
362. *See id.*
363. *See* Wash. St. Ct. R.: Crim. R. Ct. Ltd. Jur. 3.1—Standards, http://www.courts.wa.gov/court_rules/?fa=court_rules.list&group=clj&set=CrRJ [http://perma.cc/X49X-LZWM]; *see also In re* Adoption of New Standards for Indigent Def. & Certification of Compliance, No. 25700-A-1004 (Wash. June 15, 2012), http://www.courts.wa.gov/content/publicUpload/Press%20Releases/25700-A-1004.pdf [http://perma.cc/G3RB-VR6W].
364. *See, e.g.*, Tex. Code Crim. Proc. Ann. art. 38.075 (West 2014); Tex. Code Crim. Proc. Ann. art. 38.14 (West 2005).
365. *See* Schnidt v. State, 357 S.W.3d 845, 851 (Tex. App.—Eastland 2012, pet. ref'd).
366. *See id.*
367. *See supra* text accompanying notes 284–313. *See generally* Wilkes, *supra* note 284 (outlining postconviction procedures for all of the states).
368. *See* Tex. Code Crim. Proc. Ann. art. 11.073 (West 2015).
369. *See id.*
370. *See id.*

North Carolina established the North Carolina Innocence Inquiry Commission, the first of its kind.[371] "The Commission is charged with providing an independent and balanced truth-seeking forum for credible postconviction claims of innocence in North Carolina."[372] This Commission is comprised of eight members selected by the Chief Justice of the North Carolina Supreme Court.[373] "The members include a Superior Court judge, a prosecuting attorney, a defense attorney, a victim advocate, a member of the public, a sheriff, and two discretionary members."[374] Between 2007 and November 2013, the Commission received 1,398 claims.[375] The Commission closed 1,197 cases from the claims it received, which resulted in four exonerations (0.03%).[376] Taking a somewhat different approach, Dallas County established the first Conviction Integrity Unit in 2007.[377] Unlike other commissions, the Unit is a branch of the district attorney's office and is staffed by district attorneys.[378] The Unit not only investigates claims of innocence but also prosecutes old cases when evidence identifies different or additional perpetrators.[379]

Many lawyers around the country are also doing their part by donating their time and resources to help overturn wrongful convictions. In 1992, Barry Scheck and Peter Neufeld founded the Innocence Project to assist defendants who could be proven innocent with DNA evidence.[380] Since then, the Innocence Project has secured more than 330 exonerations.[381] The Innocence Project was a founding member of the Innocence Network, which has spawned more than sixty satellite organizations attacking the problem of wrongful conviction, like the Innocence Project of Florida, the Center on Wrongful Convictions, and the Innocence Project of Texas.[382] While the Innocence Project has purposefully limited itself to focusing on DNA exonerations, other members of the Innocence Net-

371. *About Us*, THE N.C. INNOCENCE INQUIRY COMM'N, http://www.innocencecommission-nc.gov/ [http://perma.cc/Y94R-4XDB].

372. *See id.*

373. *See The Commissioners*, THE N.C. INNOCENCE INQUIRY COMM'N, http://www.innocencecommission-nc.gov/comm.html [http://perma.cc/CFM4-2SPG].

374. *See* THE N.C. INNOCENCE INQUIRY COMM'N, http://www.innocencecommission-nc.gov/ [http://perma.cc/WW9S-EZ3P].

375. *See Case Statistics*, THE N.C. INNOCENCE INQUIRY COMM'N, http://www.innocencecommission-nc.gov/stats.html [http://perma.cc/T92F-WUNY].

376. *Id.*

377. *See Conviction Integrity Unit*, DALLAS CNTY. DIST. ATTORNEY, http://www.dallascounty.org/department/da/conviction_integrity.php [http://perma.cc/S8R4-A4LV].

378. *See id.*

379. *See id.*

380. *See Our Work*, INNOCENCE PROJECT, http://www.innocenceproject.org/free-innocent [http://perma.cc/9H8X-NSJ4].

381. *See FAQs: How Many People Have Been Exonerated Through DNA Testing?*, INNOCENCE PROJECT, http://www.innocenceproject.org/faqs/how-many-people-have-been-exonerated-through-dna-testing [http://perma.cc/P7HQ-8YHT].

382. *See FAQs: What is the Relationship Between the Innocence Project and Other Organizations Doing Similar Work*, INNOCENCE PROJECT, http://www.innocenceproject.org/faqs/what-is-the-relationship-between-the-innocence-project-and-other-organizations-doing-similar-work [http://perma.cc/BLN4-FEU2]; *Members*, INNOCENCE NETWORK, http://www.innocencenetwork.org/members/ [http://perma.cc/U6A3-KDEX].

work have different criteria. For example, some member organizations will also help with arson or shaken baby syndrome cases.[383] Some organizations, though, have limitations like a minimum sentence requirement or a time-left-to-serve requirement.[384] All of these member organizations are making progress in uncovering wrongful convictions and are developing their own specialties, but there may still be many wrongful convictions that are not yet even being investigated.

Law firms large and small have even gotten involved in helping the wrongfully convicted.[385] For example, in 2008, attorneys at Haynes and Boone, LLP helped overturn a wrongful murder conviction in Texas.[386] In 2010, Jones Day attorneys helped overturn a wrongful murder conviction in Ohio.[387] Lawyers from Cravath, Swain & Moore LLP helped overturn a wrongful murder conviction in New York in 2011.[388] In 2012, attorneys at Keker & Van Nest LLP helped overturn a wrongful murder conviction in California.[389] In 2013, attorneys from Schiff Hardin LLP helped overturn a wrongful conviction for sexual assault in Illinois after the defendant had already spent twenty years in prison.[390] Only months later, in Illinois, Kathleen Zellner worked to help get Ryan Ferguson's conviction vacated.[391] These are just a handful of examples of attorneys volunteering to help remedy the problem of wrongful conviction in the United States.

G. Clemency

Finally, clemency has long been touted as the "'fail safe' in our criminal justice system."[392] Although each state and the federal government pro-

383. *See Members*, *supra* note 382.

384. *See id.*

385. Sometimes the gratitude of defendants helped by volunteers is shown by contributions to help others. In 2013, for example, Anthony Graves—an exoneree—established the Nicole B. Casarez Endowed Scholarship at the University of Texas School of Law in honor of the institution's graduate who assisted Graves in proving his innocence. *See* Samantha Youngblood, *Life After Death Row: Exoneree Anthony Graves Gives to UT Law in Honor of Nicole Casarez, '79, Who Helped Free Him*, UTLaw, Spring 2014, at 20, http://law.utexas.edu/news/2014/04/24/life-after-death-row/ [http://perma.cc/F4U3-GZP7].

386. *See News/Events*, Haynesboone, http://www.haynesboone.com/news-and-events/news/press-releases/2008/05/12/haynes-and-boone-pro-bono-team-obtains-freedom-for-two-wrongly-convicted-murder-defendants [http://perma.cc/87PY-8XQL].

387. *See Pro Bono Experience*, JonesDay, http://www.jonesdayprobono.com/experience/ExperienceDetail.aspx?exp=25489 [http://perma.cc/3S8D-J544].

388. *See Pro Bono Victory in Wrongful Conviction Case "People v. Bellamy"*, Cravath, Swaine & Moore LLP, http://www.cravath.com/Pro-Bono-Victory-in-Wrongful-Conviction-Case-People-v-Bellamy/ [http://perma.cc/NW9B-FEAY].

389. *See Pro Bono*, Keker & Van Nest LLP, http://www.kvn.com/practices/pro-bono [http://perma.cc/YUH4-C7UN].

390. *See News & Events*, Innocence Project, http://www.innocenceproject.org/news-events-exonerations/press-releases/lake-county-illinois-man-exonerated-after-25-year-struggle-to-clear-his-name [http://perma.cc/8PLN-PLWG].

391. *See Ryan Ferguson*, The Nat'l Registry of Exonerations, http://www.law.umich.edu/special/exoneration/pages/casedetail.aspx?caseid=4304 [http://perma.cc/HB83-MPRH].

392. *See* Herrera v. Collins, 506 U.S. 390, 412, 415 (1993); *see also* Cara H. Drinan, *Clemency in a Time of Crisis*, 28 Ga. St. U. L. Rev. 1123, 1124 (2012) ("This power [to

vide a mechanism for granting clemency,[393] grants of clemency can be politically motivated and capricious.[394] And in recent decades, there has been a significant decline in grants of clemency at the state level.[395] At the federal level, U.S. Presidents have varied in their rates of granting clemency, but, until recently, President Obama had granted fewer such requests than any U.S. president on record, having granted just fifty-two pardons and ten commutations since taking office in 2009.[396] However, the Obama Administration announced in April 2014 a plan to grant clemency to thousands of drug offenders—a plan referred to as the clemency initiative—and President Obama has granted an additional twelve pardons and seventy-nine commutations in 2015, now surpassing Presidents George H.W. Bush and Theodore Roosevelt.[397]

If evidence surfaces suggesting that an individual is actually innocent of the crime for which he was convicted, then perhaps that individual has a greater chance at receiving clemency. For example, Marvin Anderson was pardoned in 2002 after DNA testing excluded him as a perpetrator, and at least 232 other individuals have been pardoned for similar reasons.[398] On a broader scale, Illinois's former Governor George Ryan cleared his state's death row in 2003 when he commuted all of the state's death sentences to sentences of life without parole due to his concerns that these individuals could be innocent and that capital punishment is un-

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grant clemency] is deeply rooted in American history, and as recently as the first half of the twentieth century, clemency grants were a regular feature of our criminal justice system.").

393. *See* Drinan, *supra* note 392, at 1124; *Clemency*, DEATH PENALTY INFO. CTR., http://www.deathpenaltyinfo.org/clemency [http://perma.cc/D69G-FKNU].

394. *See* Brian M. Hoffstadt, *Normalizing the Federal Clemency Power*, 79 TEX. L. REV. 561, 588–90 (2001) (stating that "clemency can be used to achieve political ends that have little or nothing to do with enhancing justice" and discussing how several U.S. "Presidents have on numerous occasions availed themselves of the pardon power in pursuit of these ends"). *But see* Michael Heise, *Mercy by the Numbers: An Empirical Analysis of Clemency and Its Structure*, 89 VA. L. REV. 239, 304 (2003) (suggesting "that many standard political factors assumed to influence clemency decisions might be overstated").

395. *See* Drinan, *supra* note 392, at 1124.

396. *See Clemency Statistics*, U.S. DEP'T OF JUSTICE, http://www.justice.gov/pardon/clemency-statistics#obama [http://perma.cc/4PSN-V7CC]; Katie Zezima, *President Obama Has Granted Clemency Fewer Times than Any Modern President*, WASHINGTONPOST.COM (Apr. 25, 2014), http://www.washingtonpost.com/blogs/the-fix/wp/2014/04/25/obama-is-calling-for-an-increase-in-clemency-applications-but-hes-granted-it-fewer-times-than-any-modern-president/ [http://perma.cc/2FXB-8FV4].

397. Sari Horwitz & Katie Zezima, *Justice Department Prepares for Clemency Requests from Thousands of Inmates: Attorney General Holder Expects Thousands of Applications from Non-violent Drug Offenders*, WASH. POST, Apr. 21, 2014, https://www.washingtonpost.com/world/national-security/justice-department-prepares-for-clemency-requests-from-thousands-of-inmates/2014/04/21/43237688-c964-11e3-a75e-463587891b57_story.html [http://perma.cc/MAX7-TUS8]; *see Clemency Project Overview and FAQs*, NAT'L ASS'N CRIM. DEF. LAW, http://www.nacdl.org/clemencyproject/ [http://perma.cc/Z5HG-W8ED].

398. *See* Brief of Eleven Individuals Who Have Received Clemency Through DNA Testing as *Amici Curiae* In Support of Respondent at 1–3, Dist. Attorney's Office v. Osborne, 129 S. Ct. 2308 (2009) (summarizing Marvin Anderson's story along with other individuals who were granted clemency after DNA testing); *Marvin Anderson*, INNOCENCE PROJECT, http://www.innocenceproject.org/cases-false-imprisonment/marvin-anderson [http://perma.cc/9RAN-NK3E].

fairly imposed.[399] But even when there has been some demonstration that the individual in question could be innocent, or that the punishment is broadly unfairly imposed, the review of clemency petitions can be fraught with political considerations.[400] Broader approaches to clemency, though, could possibly open up this avenue as a more viable approach to righting wrongful convictions.

V. MORE WORK TO DO

Despite the strides that have been made to address the problem of wrongful conviction, still more can be done. Perhaps the most important way to address the problem is to educate lawyers, and especially judges, on critically examining the ways in which individual defendants are convicted.

First, it is important to acknowledge that our system is deficient in certain respects.[401] When confronted with assertions that an individual may have been wrongfully convicted or that conviction tools may be unreliable, judges react in various ways. Some judges are eager to learn more. Others stick their heads in the sand, refusing to accept that the system has convicted innocent individuals or that tools relied on for more than a hundred years could actually be unreliable. For example, several courts have ruled that, "while the principles underlying fingerprint identification have not attained the status of scientific law, they nonetheless bear the imprimatur of a strong general acceptance, not only in the expert community, but in the courts as well."[402] Even though these judges recognize that there is little to no scientific foundation for fingerprint evidence, they

399. *See* Jodi Wilgoren, *Citing Issue of Fairness, Governor Clears Out Death Row in Illinois*, N.Y. TIMES, Jan. 12, 2003, at 1, http://www.nytimes.com/2003/01/12/us/citing-issue-of-fairness-governor-clears-out-death-row-in-illinois.html [http://perma.cc/9N7D-GN4C] ("'The facts that I have seen in reviewing each and every one of these cases raised questions not only about the innocence of people on death row, but about the fairness of the death penalty system as a whole,' Governor Ryan said this afternoon. 'Our capital system is haunted by the demon of error: error in determining guilt and error in determining who among the guilty deserves to die.'").

400. *See* Ryan, *supra* note 69, at 269–70 (describing events that took place after evidence suggestive of Cameron Todd Willingham's innocence surfaced that some individuals have characterized as political maneuvering by the Texas governor).

401. *See* SIMON, *supra* note 347. Professor Simon explains:

> There is little doubt that the self-assurance in the accuracy of the process caters to important psychological and societal needs. For one, people tend toward favorable assessments of the prevailing social order, deeming it to be just and legitimate. More importantly, the mere notion that the state can wreck the lives of innocent people casts a disconcerting shadow over the integrity of the system and is bound to pose a threat to the psyche of the people involved in its operation. Ironically, a natural response to threats of this kind is to deny their existence. . . . [But] [t]he prospects of reform are to a large extent contingent on the prospects of altering these two pervasive mindsets.

Id.

402. United States v. Crisp, 324 F.3d 261, 268 (4th Cir. 2003); *see also,* e.g., United States v. Joseph, No. CR. A. 99-238, 2001 WL 515213, at *1 (E.D. La. May 14, 2001) (stating that "fingerprint analysis has been tested and proven to be a reliable science over decades of use for judicial purposes" and that "fingerprint technicians utilizing both the

refuse to accept that this poses a problem and creates a possible risk of wrongful conviction. Still other judges understand that some of the tools and processes for convicting individuals have flaws that heighten the possibility of wrongful conviction, but these judges are understandably overwhelmed with what this might mean for the criminal justice system as a whole and also feel powerless to do anything about it. If we cannot rely on fingerprint evidence, for example, then what can we rely on? And won't the entire criminal justice system unravel if we recognize that some of these tools of conviction might be invalid? Finally, some judges resort to conducting their own independent research—often on the internet. This raises its own questions about whether such an independent investigation comports with the applicable judicial rules of conduct.[403] Regardless of the type of judge involved, though, it is important for them to recognize that there are some significant faults in the tools regularly used today to convict individuals. The first step in addressing this problem is changing the judicial culture of rebuff in this regard. If we cannot see that a problem exists, it is going to be difficult to address it.

Once legal decisionmakers are open to the possibility of a problem, they have to possess the skills to effectively examine the science or social science behind the tools employed to convict defendants. In addition to competence, it is important that these legal decisionmakers possess the *confidence* that they can effectively examine these scientific tools. Judicial education—and the education of police officers, lawyers, and the public more generally—is important in this regard.

Before education, though, it is essential to have basic research on which to build this education. A critical examination of the tools used to convict defendants should spur much needed additional research on the reliability of these traditional tools. Some relatively straightforward research could lend greater understanding to matters such as the error rates in fingerprint examiners' match determinations and the extent to which fibers can be individuated. It is also crucial that these results are well publicized so that practitioners, judges, lawyers, and even the general public, are aware of the limitations of the various conviction tools employed today. Certainly sufficient funding would be necessary to carry out the necessary tests to shore up the various areas of analyses and to widely communicate the results. The proposals set forth in the 2009 NAS report on strengthening forensic science are also worthy of consideration.[404] The lack of standards and accreditation that are pervasive in the forensic science disciplines are surely part of the problem of much of modern forensic evidence's reliability gap, and the lack of standards and strict

Galton and ridgeology techniques follow established principles and use scientific methods that are recognized in their particular field").

403. *See generally* Elizabeth G. Thornburg, *The Curious Appellate Judge: Ethical Limits on Independent Research*, 28 REV. LITIG. 131 (2008) (examining whether the Model Code of Judicial Conduct prohibits independent judicial research, especially in the areas of science and social science).

404. *See supra* text accompanying notes 47–58.

adherence to standards, are problematic in the criminal investigation business overall. There could be resistance to change from practitioners or individual jurisdictions, and their views are worthy of sincere consideration, but the importance of achieving greater reliability of the tools of conviction is key.

Once there is sufficient research supporting the basic tools of conviction (or perhaps research suggesting that some of these tools should be abandoned), effective judicial education, and education more broadly, can begin. To the extent that there have already been attempts to educate judges on research that may bear on legal questions, these attempts have generally taken a categorical approach. Some lawyers and scientists have tried to teach judges about discrete areas of the law. There has not been much assessment as to the effectiveness of this strategy, but, to the extent it has been effective, the returns are likely limited to the discrete areas of research in which a judge is trained and limited to the scientific progress made at the time of the training. Perhaps a broader, and in some ways more basic, approach would be more effective. Judges and other decisionmakers need to learn how to assess the reliability of scientific research for themselves. This means that judges should be taught about basic scientific methodology so that they can effectively read scientific studies and competently assess the quality of the research performed. This may sound like a daunting task. But judges are generally intellectually curious, intelligent, and fast learners. Armed with general scientific skills, judges educated in this broader fashion could come to scientific questions from a confident and informed position. Certainly, for judges to competently assess scientific studies could be quite time consuming. But having a stable of knowledgeable judges will likely shift the focus from hoodwinking judges to offering up sound science.

Finally, it is essential that legal decisionmakers acknowledge that they are fallible and that, despite being endowed with incredible power within the system, they, too, are vulnerable to bias. Certainly, education is a crucial component of addressing the wrongful conviction problem. But it is essential to train not only on the sources of wrongful conviction and the limitations of the tools of conviction; it is also important to educate the relevant decisionmakers on the topic of explicit and implicit biases. Many people believe that they are fair and unbiased. But research suggests that most people harbor at least some implicit biases;[405] it is very difficult in our society not to harbor them. And research suggests that even some racial minorities harbor some implicit biases against their own racial group and members of other minority racial groups.[406] Perhaps at least

405. A common test for determining whether you harbor implicit biases can be found at *Project Implicit*, https://implicit.harvard.edu/implicit/education.html [http://perma.cc/J54W-DEN6]. People are often surprised by their results.

406. *See* Anthony G. Greenwald & Linda Hamilton Krieger, *Implicit Bias: Scientific Foundations*, 94 CAL. L. REV. 945, 956 (2006) ("African Americans constitute the only subgroup of respondents who do not show substantial implicit pro-[European American] race bias on the Race IAT. Approximately equal percentages of African Americans dis-

making actors—such as judges, jurors, lawyers, and police officers—aware of these possible biases, and motivating them to account for these biases, could help them achieve results less affected by these unconscious views.

VI. CONCLUSION

There is evidence that our system continues to convict innocent persons. This error rate may be less than 5%,[407] but, still, innocent individuals are being convicted and punished. A system in which no innocent individuals are convicted may be impossible. Indeed, our accepted burden of proof—beyond a reasonable doubt—contemplates the implausibility of certainty of guilt before conviction. But, if there are feasible ways to improve our error rate, to cut down on the number of people wrongfully convicted, then it makes sense to pursue these strategies. There are many possibilities for reform. Jurisdictions could adopt the reforms already implemented in some states—such as improving identification procedures and recording interrogations. Greater oversight related to police officers', prosecutors', and defense attorneys' work in cases could likewise be implemented. And jurisdictions could invest in educating judges, lawyers, police officers, and the general public about scientific research related to the reliability of forensic evidence, eyewitness identifications, confessions, and informant testimony. Jurisdictions could also educate about the power of explicit and implicit biases.

There are many avenues for reform. Some may require greater financial resources and others may require greater efforts to sell the ideas to the public. But many of these approaches require further education. Making everyone aware of the problem of wrongful conviction, and the ways by which wrongful conviction can occur, is an essential component of addressing the problem. Educating decisionmakers on biases and the basics of scientific methodology could also have an important impact on addressing this concerning problem of wrongful conviction.

played implicit bias in the pro-[African American] and pro-[European American] directions."); Lane et al., *supra* note 260, at 237; *supra* note 259 and accompanying text.

407. *See supra* text accompanying notes 17–23.