Constitutional Regulation of Forensic Evidence

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I. Introduction

The Constitution increasingly regulates the use of forensic evidence in criminal cases. This is a remarkable shift. In decades past, the U.S. Supreme Court declined to provide strong due process protection against destruction of forensic evidence.[1] The Court also declined to recognize a clear due process right to obtain independent defense access to experts.[2] The Court more recently declined to recognize a freestanding non-procedural due process right to post-conviction DNA evidence.[3] The Court in *Maryland v. King*[4] interpreted the Fourth Amendment to permit broad collection of DNA evidence from arrestees.[5] In contrast, in recent years, the Court's series of Confrontation Clause rulings tightened requirements to present live testimony in the courtroom.[6] Perhaps of greater significance, I argue, the Court

1. *See* Arizona v. Youngblood, 488 U.S. 51, 59 (1988) (holding that "unless a criminal defendant can show bad faith on the part of the police, failure to preserve potentially useful evidence does not constitute a denial of due process of law"). For a discussion of the *Youngblood* ruling, see, e.g., Peter Neufeld, *Legal and Ethical Implications of Post-Conviction DNA Exonerations*, 35 NEW ENG. L. REV. 639, 646 (2001).

2. *See generally* Ake v. Oklahoma, 470 U.S. 68 (1985). *See infra* Part IV (discussing defense access to experts and ineffective assistance of counsel); *see, e.g.*, Erin Murphy, *The New Forensics: Criminal Justice, False Certainty, and the Second Generation of Scientific Evidence*, 95 CAL. L. REV. 721, 743 (2007) ("The Supreme Court last addressed the constitutional requirements for expert assistance to indigents in 1985, in *Ake v. Oklahoma*, in which the Court recognized only the barest entitlement to expert advice.").

3. *See* Brandon L. Garrett, *DNA and Due Process*, 78 FORDHAM L. REV. 2919, 2925–26 (2010) (explaining that the Ninth Circuit in *Osborne v. District Attorney's Office*, 521 F.3d 1118 (9th Cir. 2008), recognized a due process right to potential evidence of innocence, grounded in due process rulings such as *Brady v. Maryland*, 373 U.S. 83 (1963), which entitles a defendant to evidence of innocence in the State's custody).

4. 133 S. Ct. 1958 (2013).

5. *See id.* at 1965 ("The processing of respondent's DNA sample's CODIS loci also did not intrude on his privacy in a way that would make his DNA identification unconstitutional. Those loci came from noncoding DNA parts that do not reveal an arrestee's genetic traits and are unlikely to reveal any private medical information."); *see also generally* Kerry Abrams & Brandon L. Garrett, *DNA and Distrust*, 91 NOTRE DAME L. REV. 757 (2016) (discussing constitutional implications of DNA testing).

6. *See generally* Williams v. Illinois, 132 S. Ct. 2221 (2012); Bullcoming v. New Mexico, 131 S. Ct. 2705 (2011); Melendez-Diaz v. Massachusetts, 557 U.S. 305, 311 (2009).

has strengthened the obligations of defense counsel to litigate forensics, twice underscoring in little-noticed opinions that: "Criminal cases will arise where the only reasonable and available defense strategy requires consultation with experts or introduction of expert evidence."[7] In this Essay, I describe how despite decades of missed opportunities to adequately regulate forensics, in recent rulings the Supreme Court and lower courts increasingly focus on sound litigation of forensics. In an era of plea bargaining, the accuracy of forensic analysis depends far less on cross-examination at trial, and far more on sound lab techniques, full disclosure of strengths and limitations of forensic evidence to prosecutors and the defense, and careful litigation. The Sixth Amendment and the Due Process Clauses are emerging as promising constitutional sources for improved regulation of forensics, including through ineffective assistance of counsel and *Brady v. Maryland*[8] rulings focusing on investigations and plea bargains, as well as the general due process guarantee of a fair trial.

The changing judicial understanding of the constitutional significance of forensic evidence in criminal cases may follow from a new appreciation that forensic evidence is not only increasingly important in criminal cases, but also that many traditional forensic techniques lack adequate reliability and validity. Forensic science has experienced a decade or more of crisis, with high profile wrongful convictions due to flawed forensics, ongoing scandals and large-scale audits of scores of crime labs, and pronouncements by the scientific community that much of what passes for forensics is unscientific and must be placed on a firmer research footing.[9] As a result, the "expectations of the legal

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7. Hinton v. Alabama, 134 S. Ct. 1081, 1088 (2014) (quoting Harrington v. Richter, 562 U.S. 86, 106 (2011)).

8. 373 U.S. 87 (1963).

9. *See* NAT'L RESEARCH COUNCIL, COMMISSION ON IDENTIFYING THE NEEDS OF THE FORENSIC SCIENCES COMMUNITY, STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD 7 (Nat'l Acads. Press 2009) [hereinafter NAS REPORT] ("With the exception of nuclear DNA analysis, however, no forensic method has been rigorously shown to have the capacity to consistently, and with a high degree of certainty, demonstrate a connection between evidence and a specific individual or source."). *See generally* BRANDON L. GARRETT, CONVICTING THE INNOCENT: HOW CRIMINAL PROSECUTIONS GO WRONG Ch. 3 (2011).

community" have changed, and criminals' lawyers are expected to litigate potential deficiencies in forensics.[10]

In the past, constitutional criminal procedure had little to say if inaccurate or unreliable forensics were used in criminal cases. The Supreme Court's Sixth Amendment Confrontation Clause rulings in the past decade—from *Melendez-Diaz v. Massachusetts*[11] to *Bullcoming v. New Mexico*[12] to *Williams v. Illinois*[13]—split the Justices and enhanced the Sixth Amendment's role in regulating the presentation of forensic evidence by expert witnesses in criminal courtrooms.[14] However, the Court's Confrontation Clause rulings, as critics have pointed out, do little to strengthen the reliability of forensic evidence used in criminal cases. The right to cross-examine analysts has limited practical benefits, where few cases go to trial, and where cross-examination may not uncover underlying flaws in the forensics.[15] One response is that the Constitution simply has little to say and that regulating forensics must take place in the laboratory, through improved public policy, basic scientific research, or improved rules governing scientific evidence in the courtroom.[16]

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10. *See, e.g.*, *Hinton*, 134 S. Ct. at 1088 (noting that the merit of an ineffectiveness claim hinges on the reasonableness of the counsel's efforts in light of the totality of the circumstances).

11. 557 U.S. 305 (2009).

12. 564 U.S. 647 (2011).

13. 132 S. Ct. 2221 (2012).

14. For scholarly discussion on this point, see, e.g., Jennifer Mnookin & David Kaye, *Confronting Science: Expert Evidence and the Confrontation Clause*, 2012 SUP. CT. REV. 99, 101.

15. *See* Brandon L. Garrett, *Constitutional Law and the Law of Evidence*, 101 CORNELL L. REV. 57, 112 (2015) ("[W]e do not know whether the Court's Confrontation Clause decisions have actually improved the quality of forensics work in laboratories, and there is every reason to think that they have not."); David A. Sklansky, *Hearsay's Last Hurrah*, 2009 SUP. CT. REV. 1, 82 (arguing that the Court's recent Confrontation Clause cases may divert "judicial and legislative attention from other, more promising ways to bring meaning to the Confrontation Clause").

16. For work examining each of those potential approaches, see generally NAT'L RESEARCH COUNCIL; *supra* note 9; Simon A. Cole, *Acculturating Forensic Science: What is 'Scientific Culture', and How can Forensic Science Adopt It?*, 38 FORDHAM URBAN L. J. 435 (2010); Jennifer L. Mnookin et al., *The Need for a Research Culture in the Forensic Sciences*, 58 UCLA L. REV. 725 (2011); Michael J. Saks & David L. Faigman, *Failed Forensics: How Forensic Science Lost Its Way and How It Might Yet Find It*, 4 ANN. REV. L. & SOC. SCI. 149 (2008).

Without fully disagreeing with those diagnoses or prescriptions, I explore how constitution criminal procedure increasingly has more to say about forensics than ever before, through the Sixth Amendment right to effective assistance of defense counsel, as well as through the Due Process Clause, as it applies to all sides in a criminal matter, including the prosecution, crime labs, and the defense.

There has been very little academic discussion of the right to the assistance of counsel in connection with scientific evidence.[17] The *Strickland v. Washington*[18] test is flexible and forgiving; it requires only that counsel's performance fell below an objective standard of reasonableness, within the broad range of competency in the bar, as well as a showing that this failure resulted in actual prejudice to the outcome in the defense case.[19] Many of the Supreme Court's leading *Strickland* rulings have concerned very different topics, including the obligations of defense counsel to adequately prepare mitigation evidence, which may rely on extensive expert evidence, at the sentencing phase of capital trials,[20] and most recently, with a focus on defense obligations during plea bargaining, but not guilt phase expert or scientific evidence.[21] However, in recent years, the Court has begun to re-engage with the obligations of defense counsel at the guilt phase, and with forensic evidence in particular. Lower courts have also issued prominent rulings recognizing the importance of defense efforts to litigate forensics, and in Part III, I explore those rulings in some detail. Still additional rulings

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17. For an excellent piece on the topic, see generally Paul C. Giannelli & Sarah Antonucci, *Forensic Experts and Ineffective Assistance of Counsel*, 48 NO. 6 CRIM L. BULLETIN art 8 (2012). *See also* Brandon L. Garrett, *Validating the Right to Counsel*, 70 WASH. & LEE L. REV. 927, 955 (2013) (noting the need for research on whether "defense lawyers properly understand expert evidence, or forensic science evidence—and does the presence of that evidence tend to alter defense strategies—and if so, how?").

18. 466 U.S. 668 (1984).

19. *See id.* at 690 ("[A] court deciding an actual ineffectiveness claim must judge the reasonableness of counsel's challenged conduct on the facts of the particular case, viewed as of the time of counsel's conduct.").

20. *See, e.g.*, Wiggins v. Smith, 539 U.S. 510, 523 (2003) ("[W]e focus on whether the investigation supporting counsel's decision not to introduce mitigating evidence of Wiggins' background *was itself reasonable*.").

21. *See, e.g., generally* Lafler v. Cooper, 132 S. Ct. 1376 (2012).

expanding the focus to include plea bargaining may further improve the relevance of the right to the practice of forensics.

This may be part of a larger recognition in the bar and in the courts that scientific evidence plays a greater role in criminal cases such that lawyers have an obligation to handle it properly, which I discuss in Part III of this Essay. In a prior study, I have found that in cases of DNA exonerees in which invalid, overstated, or erroneous forensics were presented at trial, "[d]efense counsel rarely made any objections to the invalid forensic science testimony in these trials and rarely effectively cross-examined forensic analysts who provided invalid science testimony."[22] Peter Neufeld has commented: "Defense lawyers generally fail to build a challenge with appropriate witnesses and new data. Thus, even if inclined to mount a *Daubert* challenge, they lack the requisite knowledge and skills, as well as the funds, to succeed."[23] Whether defense lawyers will rise to appropriately rigorous standards due to rulings that occur sporadically and only through post-conviction challenges that may result in rulings years or even decades after a conviction, remains to be seen.

In Part IV I turn from ineffective assistance of counsel claims and forensics to the Due Process Clause, and to four other constitutional theories that may become more prominent as attorneys and judges appreciate the importance of forensics in criminal cases: (1) the general fair trial right under the Due Process Clause; (2) the right to adequate disclosure of evidence from the prosecution, or the *Brady v. Maryland* due process right, including during plea bargaining; (3) due process rights concerning fabrication of evidence; and (4) the right to access expert evidence. I conclude this Essay noting that whether the defense will receive the discovery and expert assistances it needs to adequately litigate forensic evidence remains to be seen, and whether prosecutors and crime labs will be held constitutionally accountable for failures to accurately convey forensics also remains to be seen.[24] Nevertheless, the right place for

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22. Brandon L. Garrett & Peter J. Neufeld, *Invalid Forensic Science Testimony and Wrongful Convictions*, 95 VA. L. REV. 1, 89 (2009).

23. Peter J. Neufeld, *The (Near) Irrelevance of* Daubert *to Criminal Justice: And Some Suggestions for Reform*, 95:S1 AM. J. PUB. HEALTH S107, S110 (2005).

24. *Infra* Part IV.

constitutional regulation lies at the intersection between forensic analysts, police, prosecutors and the defense. That flow of information through discovery is most readily regulated through the companion and mutually reinforcing obligations of the defense to provide effective assistance under the Sixth Amendment and the obligations of police and prosecutors to provide exculpatory and impeachment evidence under the Due Process Clause. How meaningful courts will make those dual Sixth Amendment and Due Process protections in the years to come, particularly in the area of plea bargaining, will be a crucial test of our commitment to accuracy in criminal justice.

II. The Supreme Court, Forensics, and Ineffective Assistance of Counsel

The case of Joseph Giarratano, the focus of this Symposium, provides a telling introduction to the problem of forensics litigation in criminal cases. His case was a capital case, and yet his trial lawyer mounted a highly ineffectual defense, failing to challenge any of the guilt phase evidence, including a confession and forensic evidence, and making a weak effort to offer an insanity defense in an attempt to avoid the death penalty.[25] This was 1979, a decade before DNA testing exonerated any individuals in the United States, and when there was little scrutiny of traditional forensics or much in the way of research regarding the limitations of those forensics. On appeal and post-conviction, lawyers did not appear to recognize that there was anything worth challenging regarding the forensic evidence either.

There were the forensics at trial but there were also the forensics not presented at trial. Giarratano had confessed to the murders and later recanted; at the time, crime scene investigators found bloody shoe prints that did not match his shoes, but this was not disclosed to the defense.[26] Nor was blood

25. *See generally* Richard J. Bonnie, *Mental Illness, Severe Emotional Distress and the Death Penalty: Reflections on the Tragic Case of Joe Giarratano*, 73 WASH. & LEE L. REV. 1445 (2016) (describing the details of Giarratano's conviction).

26. *See* June Arney, *Joseph M. Giarratano*, VIRGINIA-PILOT, June 26, 1994,

present on the bottom of his boots, or on his clothing, despite having been detailed not long after the crime, and where the crime scene was extremely bloody, with one victim having been brutally stabbed.[27] Serology identified blood group substances consistent with that of one victim, and intact spermatozoa, but no DNA testing could be done back in 1979.[28] The crime scene analysts also found drops of blood on his boot that was Type O, the same type as one victim, but also shared by much of the population; moreover, this was the type of the victim who was strangled, not the victim who was stabbed.[29]

The crime scene investigators also collected a large number of hairs from the body of the victim, all of which, including pubic hairs, did not match Giarratano, except for one pubic hair which was said to be "consistent" with his hair.[30] It was neither originally clear nor developed at trial where these hairs were located at the crime scene. The analyst was careful to admit on cross-examination that it is "possible" that another individual could have had similar hair characteristics to the defendant.[31] The analyst said that hair comparison is "not like the science of fingerprints,"[32] which in contrast was said to be a matter of certainty—a statement that a fingerprint analyst would not make today.

There were seventeen latent fingerprints found at the scene, but only one was said by a police fingerprint analyst to have been unequivocally "made by the same person," meaning Giarratano, based on a finding of "over 15 to 20 characters of identification." [33]

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at A15 ("Since before his trial, a state expert who tested the soles of Giarratano's boots had known that they showed no trace of blood, but it took years for that information and its full implications to reach his defense team.").

27. *See* Giarratano v. Commonwealth, 220 Va. 1064, 1066–67 (1980) (describing the murders of Toni and Michelle Kline).

28. *See id.* at 1072 (describing forensic evidence found on one victim's body).

29. Transcript of Record at 77, Commonwealth v. Giarratano (May 22, 1979) (explaining that "blood type O was found on the front and left side of the right boot").

30. *Id.* ("One of the question pubic hairs from that item was consistent with the standard pubic hair sample in race, color and microscopic characteristics.").

31. *Id.* at 81.

32. *Id.*

33. *Id.* at 34–35.

Such point systems are no longer in use today. That single print was found on a closet doorknob in a bedroom unrelated to the crime.[34] Not only did the fingerprint analyst reach an overstated conclusion about the single print found to match, but the analyst never explained the fact that the large number of other prints did not match. That said, Giarratano had lived in the apartment in question, so the probative value of such forensics were never particularly high.

Regardless, the forensics were not challenged at trial by the defense lawyer, who could have raised such questions—except as to the shoe print evidence that was not disclosed to the defense. There was no ineffective assistance of counsel claim raising the failure to have done so post-conviction, and nor was there a *Brady* claim concerning the shoe print evidence, since that evidence apparently surfaced only after the habeas proceedings concluded.[35] The focus post-conviction was on Giarratano's competency to stand trial and confess and his resulting inability to communicate with his trial lawyer.[36] Reviewing the federal habeas petition, the Fourth Circuit Court of Appeals noted that his post-conviction lawyers "expressly disavowed any claim of ineffective representation of counsel at the guilt phase of the trial."[37] Forensics were a non-issue, although they served to corroborate Giarratano's confession.

Today, such hair comparisons would raise serious questions because the scientific community has called into question whether such comparisons can be used to reliability link evidence to individuals.[38] The FBI—as well as several states and crime labs—are conducting a national audit of its work in decades of cases involving hair comparison.[39] To be sure, the analyst in the

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34. Arney, *supra* note 26.

35. *Id.*

36. *See generally* Giarratano v. Procunier, 891 F.2d 483 (4th Cir. 1989); Bonnie, *supra* note 25.

37. *Giarratano*, 891 F.2d at 489.

38. *See* NAS REPORT, *supra* note 9, at 160–61 (stating the committee "found no scientific support for the use of hair comparisons for individualization in the absence of nuclear DNA").

39. *See FBI Clarifies Reporting on Microscopic Hair Comparisons Conducted by the Laboratory*, FED. BUREAU OF INVESTIGATION (July 13, 2012), https://archives.fbi.gov/archives/news/pressrel/press-releases/fbi-clarifies-reporting-on-microscopic-hair-comparisons-conducted-by-the-laboratory (last

Giarratano case did qualify the conclusions when questioned on

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visited Aug. 30, 2016) ("[B]ased on recent cases, the FBI and Department of Justice are committed to undertaking a review of historical cases that occurred prior to the regular use of mitochondrial DNA testing to ensure that FBI testimony at trial properly reflects the bounds of the underlying science.") (on file with the Washington and Lee Law Review); *see also Texas Hair Microscopy Case Review*, TEX. FORENSIC SCI. COMM'N, http://www.fsc.texas.gov/texas-hair-microscopy-case-review (last visited Sept. 14, 2016) (discussing the impact of the FBI's review process on Texas case reviews) (on file with the Washington and Lee Law Review). I note that one academic, Professor David Kaye, has written an online essay in this law review arguing these revelations should not trouble us so much, because, after all, hair evidence might still sometimes be "slightly probative" even if analysts exaggerate its meaning at criminal trials. *See generally* David H. Kaye, *Ultracrepidarianism in Forensic Science: The Hair Evidence Debacle*, 72 WASH. & LEE L. REV. ONLINE 227 (2015). The defense lawyers in those cases would have been thrilled to have known they could cross-examine confident-sounding FBI analysts, telling them that at best their evidence might be "slightly probative." Yet Professor Kaye oddly claims hair examiners did have "some expertise." *Id.* at 232. He cited a 2002 FBI study using mitochondrial DNA tests to check whether visual hair comparisons were right or wrong. *Id.* at 242; *see also generally* Max M. Houck & Bruce Budowle, *Correlation of Microscopic and Mitochondrial DNA Hair Comparisons*, 47 J. FORENSIC SCI. 1 (2002). That study is well known, involved chiefly cases with known matches to suspects by experienced examiners, and the authors still found a high false positive rate. Professor Kaye even resuscitated a discredited Canadian study from the 1970s claiming to generate statistics to be used for hair comparisons. *See* Kaye, *supra* note 39, at 236–37. Now, the goal of the FBI audit was to uncover scientific errors in criminal cases, and not to conduct an academic study. While it might be valuable, as Kaye suggests, for academics to read the FBI coding protocol, or better, what happened in each of these cases to better understand the full scope of the problem, the most important goal was to obtain justice for potentially thousands of individuals as expeditiously as possible.

Professor Kaye also claimed the FBI might have mischaracterized some of the testimony reviewed. *Id.* at 247–52. Perhaps he did not read the actual transcripts. For example, in the case of Santae Tribble, Kaye cites an online account; having read the actual testimony, one quickly sees the FBI would have correctly considered it as an example of overstated testimony. The FBI analyst explained that "[o]nly on very rare occasions" had he ever seen hairs of two individuals with the same characteristic. Specifically, he concluded that "I found that these hairs . . . matched in all microscopic characteristics with the head hair samples submitted to me from Santae Tribble." Transcript of Record at 70, 73, U.S.A. v. Santae Tribble, No. F 4160-78 (Sup. Ct. D.C., Jan. 17, 1980). Tribble was sentenced to twenty years to life, and served a twenty-three year sentence before DNA exonerated him. To condemn the entire field as a "junk science" seems no exaggeration at all. The National Academy of Sciences in its landmark report noted that due to evidence of "such high error rates," and a lack of "uniform standards," among other defects, there is "no scientific support for use of hair comparisons for individualization." NAS REPORT, *supra* note 9, at 160–61. The scandal is that such evidence was allowed in court for so long.

cross-examination; nevertheless, today there would be a concern whether the underlying technique is simply too error-prone to be reliably used in court. The fingerprint comparisons, in contrast, were presented as an absolute identification. Today, a fingerprint comparison would not be permissibly presented in such a conclusive fashion. There was also evidence that did not match. A defense expert might have come to different conclusions or examined more carefully the evidence that pointed to someone other than Giarratano.

Today, numerous pieces of this crime scene evidence could be DNA tested, including the semen samples collected, any saliva from the bite mark on one victim, potentially the hairs if there is sufficient genetic material, as well as the drop of blood on the boot. A recent effort to litigate the issue and locate any such evidence for testing was not successful, and apparently, the crime scene evidence was destroyed while the appeal was still pending in the case.[40] The questions concerning the crime scene evidence in Giarratano's case could be more conclusively resolved today. The development of new forensic technology does not impugn the work of prosecutors and defense lawyers decades ago, but it suggests the importance of preservation of crime scene evidence, and the need for changed science to support new legal remedies. The sections below explore how the case law surrounding litigation of forensic evidence has changed in the decades since Giarratano's trial.

A. Harrington v. Richter[41]

Since the right to effective assistance of counsel is tied to "reasonableness under prevailing professional norms,"[42] that right has had to evolve as forensic evidence has played an increasingly central role in criminal prosecutions. The U.S. Supreme Court has had to dedicate greater energies to interpreting how criminal procedure rights affect what prosecutors and defense attorneys do when they use such

40. Virginia Bureau of Forensic Science, Certificate of Analysis, 2 (Feb. 21, 1979).

41. 562 U.S. 86 (2011).

42. Strickland v. Washington, 466 U.S. 668, 688 (1984).

evidence. The rulings defining the responsibilities of defense counsel are highly deferential. In recent years this has gradually changed, and the Court and lower courts have become less tolerant of lawyerly ignorance of forensics, perhaps because in the CSI Era, ignorance of the centrality of forensic evidence, relied upon heavily by the prosecution in many criminal cases, appears more like willful blindness.

In *Harrington v. Richter*—a decision that attracted notice for its ruling interpreting the federal habeas corpus statute to broaden its applicability to restrict access to relief on the merits—when turning to the merits of the inmate's claim, the Supreme Court applied its venerable *Strickland* test to a case involving blood evidence.[43] Prosecution experts presented blood spatter analysis and serological testing of a pool of blood found at a murder scene.[44] The prosecutors argued that a key witness had stood in the doorway waiting for the police to arrive, and that the pool of blood belonged in part to him. To support Richter's description of the shoot-out, the defense needed to argue that the blood belonged to the victims and that the shooting occurred elsewhere within the apartment; yet the defense introduced no expert evidence to support the theory. The defense attorney apparently thought that the prosecution would not have any experts in court, an odd conclusion to have reached in a homicide case, and given ready law enforcement access to crime lab analysts.[45] The Supreme Court noted: "Richter's attorney was mistaken in thinking the prosecution would not present forensic testimony."[46] The defense attorney did not consult any experts before trial, or put on any evidence at the trial. What could have been more ineffective than that?

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43. *See Harrington*, 562 U.S. at 105 (positing the issue as "whether there is any reasonable argument that counsel satisfied *Strickland*'s deferential standard").

44. *See id.* at 95 (noting that the prosecution's serologist testified that "the blood sample taken near the pool by the bedroom door could be Johnson's but not Klein's").

45. *See id.* at 110 (discussing the defense attorney's mistaken expectation that the prosecution would not offer expert testimony regarding the forensic evidence).

46. *Id.*

The Supreme Court reversed the Ninth Circuit en banc ruling granting relief on the Sixth Amendment ineffective assistance of counsel claim in the case,[47] noting, first that "the prosecution itself did not expect to make that presentation and had made no preparations for doing so on the eve of trial. For this reason alone, it is at least debatable whether counsel's error was so fundamental as to call the fairness of the trial into doubt."[48] Was the prosecution's mid-trial surprise use of forensics something that reduced the need for the defense to have investigated the issue? The Court added, "Even if counsel should have foreseen that the prosecution would offer expert evidence, Richter would still need to show it was indisputable that *Strickland* required his attorney to act upon that knowledge."[49] Yet the defense attorney had to know that the defendant's explanation of how the murder happened would not be credible without any evidentiary corroboration. What reasonable strategy would not seek to corroborate the defendant's story using forensics?

The Supreme Court did note that forensic evidence will be crucial in some criminal cases "where the only reasonable and available defense strategy requires consultation with experts or introduction of expert evidence, whether [at] pretrial, at trial, or both."[50] This was an important first-time statement by the Court that effectively investigating forensic evidence is increasingly an important part of what a defense lawyer must do—and that to do so effectively, a lawyer may need to consult with an expert. However, the Court added that: "*Strickland* does not enact Newton's third law for the presentation of evidence, requiring for every prosecution expert an equal and opposite expert from the defense. . . . In many instances cross-examination will be sufficient to expose defects in an expert's presentation."[51]

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47. *See* Richter v. Hickman, 578 F.3d 944, 955 (9th Cir. 2009) ("Counsel's decision not to consult *any* forensic expert in blood evidence before settling upon a defense strategy that excluded the use of expert testimony, when the defense so clearly depended upon the source of the pool of blood in the doorway, indubitably fails to meet *Strickland*'s standard of care.").

48. Harrington v. Richter, 562 U.S. 86, 110 (2011).

49. *Id.*

50. *Id.* at 106.

51. *Id.* at 111.

To be sure, the *Strickland* standard is quite flexible and gives lawyers "wide latitude" to adopt different strategies.[52] The Court emphasized that the lawyer in Richter's case, "represented him with vigor and conducted a skillful cross-examination," including by bringing out how their analysis was performed long after the crime took place.[53] But when would cross-examination be "sufficient" to expose such defects? Has the Court put so much faith in its Confrontation Clause rulings that it believes that cross-examination can effectively "expose defects," without presenting the jury with an expert with a contrary view of the evidence?

In this case, the defense lawyer did not conduct a meaningful investigation to assess whether his client's account was accurate or could be supported or contradicted by the forensic evidence, much less make a strategic decision to use cross-examination to expose the defects. The Court seemed to also be concerned that retaining an expert might result in uncovering damaging forensic evidence that was worse than "fruitless" but rather "harmful to the defense."[54] The Court added, "there was the possibility that expert testimony could shift attention to esoteric matters of forensic science, distract the jury from whether Johnson was telling the truth, or transform the case into a battle of the experts."[55] Finally, the Court emphasized that there was quite a bit of other evidence of the defendant's guilt, which might have "eclipsed" any benefit to presenting a stronger attack on the forensics.[56]

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52. *See* Strickland v. Washington, 466 U.S. 668, 689 (1984) (stating that due to "the difficulties inherent in making the evaluation, a court must indulge a strong presumption that counsel's conduct falls within the wide range of reasonable professional assistance").

53. *Harrington*, 562 U.S. at 111.

54. For other lower court rulings making this type of point, see e.g., *Woodfox v. Cain*, 609 F.3d 774, 810–11 (5th Cir. 2010) (explaining that the defense would have "risked potentially uncovering damaging information depending on what the retained expert found").

55. Harrington v. Richter, 562 U.S. 86, 108–09 (2011).

56. *See id.* at 113 ("There was ample basis for the California Supreme Court to think any real possibility of Richter's being acquitted was eclipsed by the remaining evidence pointing to guilt."). Demonstrating the difficulty and malleability of such analysis, not exactly a proper harmless error analysis, the Ninth Circuit had very much disagreed, finding "weaknesses in both sides of the case." Richter v. Hickman, 578 F.3d 944, 966 (2009).

This analysis flies in the face of the reality of a criminal trial. The prosecutor did not think it was irrelevant that the defense failed to present any affirmative forensic evidence, but rather highlighted it extensively in closing arguments, openly ridiculing the defense:

> Bob Bell, [the state blood spatter expert,] he's 22 years as a blood spatter expert, all that stuff means nothing. Hey, [defense counsel] says, the blood be here. Bob Bell, hey he's wrong, trust me. *I am not going to go get an expert.* I am not going to bring somebody in here to tell you because I don't need to do it. I will just do it in closing argument. I will just say it. If you are willing to believe me, hey, that will work.[57]

The problem became even more severe when one considers what defense experts could have said. As the Ninth Circuit described, the experts that the defendant did retain during the post-trial habeas litigation would have shown how the serology testimony was outright inaccurate.[58] The blood types observed actually "could not exclude the possibility" that the defendant's blood was part of the mixture.[59] A seasoned analyst, who had established the Crime Scene Investigations Unit of the San Francisco Crime Laboratory provided a separate report concluding that "[t]he lack of a large number of satellite droplets [sic] surrounding the pool *eliminates* the prosecution's theory," that the prosecution witness was standing in the door.[60]

Now, the Supreme Court's analysis of this claim post-conviction was highly deferential. The *Strickland* standard is designed to make it possible only to reverse trial verdicts only when very serious lapses by counsel occur, to the prejudice of the outcome.[61] Often claims regarding inadequate defense litigation of forensics are not preserved for review. Furthermore, federal

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57. *Hickman*, 578 F.3d at 962 (emphasis in the original).

58. *See id.* ("Had counsel bothered to conduct the requisite investigation, his efforts would have been highly productive. On state and federal habeas review, Richter's new counsel conducted the investigation that trial counsel had failed to perform, and with significant effect.").

59. *Id.* at 963.

60. *Id.* at 962–63 (internal citations omitted) (alteration in original).

61. *See* Strickland v. Washington, 466 U.S. 668, 693 (1984) ("[A]ctual ineffectiveness claims alleging a deficiency in attorney performance are subject to a general requirement that the defendant affirmatively prove prejudice.").

habeas restrictions on relief are notoriously complex. Perhaps a more typical outcome was the Court's ruling in *Bradshaw v. Richey*[62] that the *Strickland* claim, concerning counsel's failure to litigate forensic expert evidence by cross-examining state experts and failing to present competing forensic evidence, was subject to a procedural default analysis for failure to develop the facts in state court.[63] The Supreme Court's *Cullen v. Pinholster*[64] ruling makes it particularly difficult to supplement the state habeas record to, for example, address new scientific or forensic evidence that the trial lawyer should have uncovered at the time.[65] Despite those restrictions, the recent *Hinton* ruling shows how post-conviction review can occasionally remedy inadequate defense forensic lawyering.

B. Kulbicki v. Maryland[66]

The Supreme Court issued a per curiam ruling in *Kulbicki v. Maryland* in 2015, denying relief on another ineffective assistance of counsel claim, but this one involved science that had fundamentally changed since the time of trial, and emphasized that back in 1995, the defense lawyer could not have been expected to be aware of the flaws in the forensics.[67] The Maryland Court of Appeals had granted habeas corpus to a prisoner whose trial lawyer had failed to challenge an FBI agent's testimony about Comparative Bullet Lead Analysis, or CBLA. The FBI agent did not find an "exact" match but found sufficient similarity to conclude that the bullet that killed the murder victim came from Kulbicki's weapon, and also matched a fragment in his

62. 546 U.S. 74 (2005).

63. *See id.* at 79 (concluding that the Sixth Circuit erred by failing to first determine "whether respondent's procedural default of these subclaims could be excused by a showing of cause and prejudice or by the need to avoid a miscarriage of justice"). The Sixth Circuit later concluded that counsel did provide ineffective assistance. Richey v. Bradshaw, 498 F.3d 344, 364 (6th Cir. 2007).

64. 563 U.S. 170 (2011).

65. *See generally id.*

66. 136 S. Ct. 2 (2015).

67. *Id.* at 4 ("[T]here is no reason to believe that a diligent search would even have discovered the supposedly crucial report.").

truck.[68] The problem was that this CBLA bullet analysis was flawed science. The National Academy of Sciences concluded in a 2004 report that "available data do not support any statement that a crime bullet came from a particular box of ammunition."[69] Fundamental flaws in the assumptions and empirical basis for CBLA analysis led Maryland courts to reject CBLA evidence fifteen years later and the FBI to itself later disavow and discontinue use of the technique in 2005.[70]

Should Kulbicki's lawyer have known back in 1995, at the time of the trial, that this was flawed science? Kulbicki argued that a report co-authored by the analyst showed how the FBI analyst had doubts even in 1991 "that the composition of lead in some bullets was the same as that of lead in other bullets packaged many months later in a separate box."[71] The Court rejected the notion, saying that "At the time of Kulbicki's trial in 1995, the validity of CBLA was widely accepted, and courts regularly admitted CBLA evidence until 2003."[72] Further, "[g]iven the uncontroversial nature of CBLA at the time of Kulbicki's trial," it would be asking lawyers to "'go looking for a needle in a haystack'" to search for such evidence that the forensics were flawed.[73]

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68. *Id.* at 2.

69. NAT'L RESEARCH COUNCIL, COMMITTEE ON SCIENTIFIC ASSESSMENT OF BULLET LEAD ELEMENTAL COMPOSITION COMPARISON, WEIGHING BULLET AND LEAD EVIDENCE 7 (Nat'l Acads. Press 2004).

70. *See FBI Announces Discontinuation of Bullet Lead Examinations*, FBI NAT'L PRESS OFF., (Sept. 1, 2005), https://www.fbi.gov/news/pressrel/press-releases/fbi-laboratory-announces-discontinuation-of-bullet-lead-examinations (last visited Aug. 31, 2016) ("The FBI Laboratory today announced that, after extensive study and consideration, it will no longer conduct the examination of bullet lead.") (on file with the Washington and Lee Law Review).

71. Maryland v. Kulbicki, 136 S. Ct. 2, 3 (2015).

72. *Id.* at 4.

73. *Id.* (quoting Rompilla v. Beard, 545 U.S. 374, 389 (2005)). In *Kulbicki*, the Court also misstated the standard as "meaning his errors are 'so serious' that he no longer functions as 'counsel,' and prejudicial, meaning his errors deprive the defendant of a fair trial." *Id.* at 3 (quoting Strickland v. Washington, 466 U.S. 668, 687 (1984)). That description of the *Strickland* test was, at the very least, a casual and imprecise one.

C. Hinton v. Alabama[74]

Compare the Court's ruling in *Kulbicki* to the 2014 per curiam opinion in *Hinton v. Alabama*, another case examining a lawyer's failure to adequately develop forensic evidence at trial, including firearms and tool mark analysis.[75] The outcome was quite different. In *Hinton*, a death penalty case, the Court found the defense lawyer to have been constitutionally ineffective.[76] Hinton was charged with the murder of restaurant managers during robberies, in which police recovered six bullets from the robbery scenes.[77] The only evidence was the eyewitness identification by a restaurant manager in one of the three robberies, and a connection drawn by a state ballistics expert between the six bullets, concluding that they were fired from a gun found at Hinton's home.[78] The defense lawyer thought that he could not obtain more than $500 to obtain an expert, although the trial judge had said that the statute permitted additional funds, and "if it's necessary that we go beyond that then I may check to see if we can."[79] The statute in Alabama had been amended the year before the trial to permit funds "for any expenses reasonably incurred [and] approved in advance by the trial court."[80]

The defense lawyer did hire an expert, one with poor vision and poor qualifications. He testified that the revolver was corroded and could not be compared to any bullet. The expert admitted that he had only the use of one eye, making it difficult to see through a forensic microscope.[81] The prosecutor

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74. 134 S. Ct. 1081 (2014).

75. *See generally id.*

76. *See id.* at 1088 ("The trial attorney's failure to request additional funding in order to replace an expert he knew to be inadequate because he mistakenly believed that he had received all he could get under Alabama law constituted deficient performance.").

77. *Id.* at 1083.

78. *See id.* ("After analyzing the six bullets fired during the three crimes and test-firing the revolver, examiners at the State's Department of Forensic Sciences concluded that the six bullets had all been fired from the same gun: the revolver found at Hinton's house.").

79. *Id.* at 1084.

80. ALA. CODE § 15-12-21(d) (1984).

81. *See* Alabama v. Hinton, 134 S. Ct. 1081, 1085–86 (2014) ("Payne also

emphasized in closing arguments that there was "no comparison" between the State's experienced experts, who both concluded that all six bullets came from Hinton's revolver, and their frequent ballistics expert work "recognized across the state."[82] Later, during federal habeas proceedings, new lawyers argued that Hinton's trial attorney was ineffective for failing to hire competent and qualified ballistics experts. The new attorneys hired three new and highly qualified experts from leading laboratories, who all concluded that the bullets were not fired from Hinton's gun; one of the experts asked that one of the State's trial experts show him how he had ever determined that the bullets could have come from Hinton's gun, and the State expert would not cooperate.[83]

In *Hinton*, the Court described the *Strickland v. Washington* standard for ineffective assistance of counsel as asking "if his trial attorney's performance falls below an objective standard of reasonableness and if there is a reasonable probability that the result of the trial would have been different absent the deficient act or omission."[84] The Court emphasized counsel's "ignorance of a point of law that [was] fundamental to his case combined with his failure to perform basic research on that point is a quintessential example of unreasonable performance under *Strickland*."[85]

The Supreme Court quoted *Richter* to underscore and repeat the proposition that "[c]riminal cases will arise where the only reasonable and available defense strategy requires consultation with experts or introduction of expert evidence."[86] That said, in another way the ruling was fairly narrow, focusing not on the failure to hire an insufficiently qualified expert, but rather an "inexcusable mistake of law," concerning the failure to understand "the resources that state law made available" to hire experts.[87]

conceded that he had had difficulty operating the microscope at the state forensic laboratory and had asked for help from one of the state experts.").

82. *Id.* at 1086.

83. *Id.*

84. *Id.* at 1083.

85. *Id.* at 1089.

86. *Id.* at 1088 (internal citations omitted).

87. Alabama v. Hinton, 134 S. Ct. 1081, 1089 (2014).

Even in *Hinton* the Supreme Court could have said more to underscore the obligations of defense counsel—and of prosecutors to not use unreliable forensics that the defense must then counter. How many lawyers will admit that their failure to adequately litigate forensics was due to an outright misunderstanding of applicable state law? And why would it not be equally problematic for a lawyer to misunderstand the science, as in *Kulbicki* or more prominently in *Richter*? On remand, Hinton's conviction was vacated and he was exonerated. Hinton later commented: "I shouldn't have [sat] on death row for thirty years. All they had to do was to test the gun."[88]

III. Lower Court Rulings on Strickland *and Forensics*

How has the right to ineffective assistance of counsel been interpreted in the lower courts? Professor Andrew E. Taslitz remarked that "the casebooks are filled with instances of lawyers failing to spot the simplest and most obvious exculpating evidence in forensic reports."[89] Lower court rulings denying relief for failures to adequately litigate forensics are numerous.[90] Obtaining relief post-conviction in any context is rare and difficult, of course, both for procedural reasons and the difficulty in raising substantive errors post-trial. However, the right to ineffective assistance of counsel is the most commonly litigated right post-conviction, and it most commonly results in relief in the rare cases in which post-conviction relief is granted.[91] Far

88. Abby Phillip, *Alabama Inmate Free After Three Decades on Death Row*, WASH. POST (April 3, 2015), https://www.washingtonpost.com/news/morning-mix/wp/2015/04/03/how-the-case-against-anthony-hinton-on-death-row-for-30-years-unraveled/ (last visited Aug. 31, 2016) (on file with the Washington and Lee Law Review).

89. Andrew E. Taslitz, *Convicting the Guilty, Acquitting the Innocent: The ABA Takes A Stand*, 19 CRIM. JUST. 18 (2005) (citing, e.g., Baylor v. Estelle, 94 F.3d 1321, 1324 (9th Cir. 1996); Troedel v. Wainwright, 667 F. Supp. 1456, 1461 (S.D. Fla. 1986)).

90. *See generally* Darian B. Taylor, *Adequacy of Defense Counsel's Representation of Criminal Client—*Daubert *or* Frye *Challenge to Expert Witness or Testimony*, 103 A.L.R. 6th 247 (2015).

91. *See* Joseph L. Hoffmann & Nancy J. King, *Rethinking the Federal Role in State Criminal Justice*, 84 N.Y.U. LAW REV. 791, 811 (2009) ("A claim of ineffective assistance of counsel in trial or appellate proceedings was raised in

more often in recent years, one sees courts granting post-conviction relief in cases in which the defense failed to adequately litigate forensics.

A. Failure to Investigate Forensics or Obtain Experts

Outright failures to investigate forensic evidence have most typically supported the ineffective assistance of counsel claims that result in relief in the lower courts. Lower courts have emphasized that the defense was on notice that forensics either were central to the case, or that that the forensics were in question. For example, habeas corpus was granted in a case in which: "The scientific evidence of arson was thus fundamental to the State's case. Yet . . . counsel did next to nothing to determine if the State's arson conclusion was impervious to attack."[92] In an Eighth Circuit case, defense counsel cross-examined a state's expert, who then admitted that whether a certain blood type was on a knife was speculative, but found counsel constitutionally ineffective for not attempting "to understand the laboratory tests performed and the inferences that one could logically draw from the results."[93] A First Circuit ruling upheld a finding of ineffectiveness for failing to adequately investigate a "no arson" defense, despite having visually inspected a fire scene and spoken with the state's arson experts.[94] The D.C. Court of Appeals granted post-conviction relief where the defense failed to call an expert on the effects of PCP on the eyewitness in the case, noting that "[p]re-trial consultation with an expert" would have permitted the defense to form a sound opinion on the question,

about half of the 2,384 noncapital cases the Vanderbilt-NCSC study assessed."); Nancy J. King et al., *Final Technical Report: Habeas Litigation In U.S. District Courts: An Empirical Study Of Habeas Corpus Cases Filed By State Prisoners Under The Antiterrorism And Effective Death Penalty Act of 1996*, at 28 (2007), https://www.ncjrs.gov/pdffiles1/nij/ grants/219559.pdf ("81.0% (299) of the capital cases included at least one claim alleging the ineffective assistance of counsel . . . .").

92. Richey v. Bradshaw, 498 F.3d 344, 362 (6th Cir. 2007).

93. Driscoll v. Delo, 71 F.3d 701, 709 (8th Cir. 1995).

94. Dugas v. Coplan, 428 F.3d 317, 328 (1st Cir. 2005) ("In essence [the attorney] 'abandoned his investigation . . . after having acquired only rudimentary knowledge of [the issues] from a narrow set of sources.'" (quoting Wiggins v. Smith, 539 U.S. 510, 524 (2003))).

and there was a probability that such expert evidence would have made the difference at trial.[95]

The concept of what is reasonable performance of counsel and the concept of materiality and prejudice may be more complex when the ineffective assistance of counsel analysis focuses on forensic evidence. Forensic evidence comes in many forms, analysis can be performed on many types of evidence, and forensic analysis can involve disciplines of quite variable probative value, reliability, and accuracy. Forensic evidence may be relevant to the fundamental question of identity: whether the defendant was the culprit, a question that may be of central materiality in a case. Forensic evidence may be relevant to the cause or manner of death or other features regarding how the crime was carried out. Forensics may be relevant to the role of the defendant in a crime. In addition, different forensic analysis may be of different degrees of reliability and accuracy, and therefore of different use to the lawyers litigating the case. Where the forensic analysis was conducted on tangential evidence, evidence that would be unlikely to produce probative results, or evidence of uncertain origin or that had been contaminated, the failure of the defense to pursue further analysis may be entirely sensible. Without investigation, however, it may be difficult for the defense to form an opinion on such questions. Further, a lawyer must be aware of the possible uses that prosecutors might put forensics at trial, without full awareness of what their experts might say. Unfortunately, defense lawyers must be aware that prosecutors may put fairly unreliable forensic evidence on the stand, and at trial courts have traditionally permitted even invalid or overstated forensics. Nor may the defense have meaningful or detailed discovery concerning the nature of the prosecution forensic analysis, or what conclusions the analyst has drawn. Given the real uncertainty that may be present and the accompanying risks, an excess of caution from the defense may be warranted.

Following the emphasis in the Supreme Court's rulings, the outright failure of the defense to consult with an expert and adequately consider or investigate the possibility of introducing or challenging the forensics will be weighed particularly heavily

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95. Kigozi v. United States, 55 A.3d 643, 658 (D.C. Cir. 2012).

in the ineffective assistance of counsel analysis.[96] The question is whether the lawyer reasonably decided not to pursue litigating the forensics. The Ninth Circuit has put it this way: "'A lawyer who fails adequately to investigate, and to introduce into evidence, information that demonstrates his client's factual innocence, or that raises *sufficient* doubts as to that question to undermine confidence in the verdict, renders deficient performance.'"[97] Cases also emphasize the situation where forensic evidence was "obviously vital to the State's case," and where the evidence of guilt was equivocal.[98] In another Ninth Circuit ruling, the court emphasized: "We have difficulty understanding how reasonably competent counsel would not recognize 'the obvious exculpatory potential of semen evidence in a sexual assault case.'"[99]

Rulings granting relief on ineffective assistance claims address an expansive range of forensic techniques, including arson evidence,[100] cell tower evidence,[101] fingerprint evidence,[102]

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96. *See Dugas*, 428 F.3d at 328 (explaining that the Court's focus is on "whether the investigation supporting the pursuit of the [not arson] defense was itself reasonable").

97. Reynoso v. Giurbino, 462 F.3d 1099, 1112 (9th Cir. 2006) (quoting Lord v. Wood, 184 F.3d 1083, 1093 (9th Cir. 1999)). *See also* Duncan v. Ornoski, 528 F.3d 1222, 1235 (9th Cir. 2008) (granting habeas relief for defense failure to consult a serologist); Draughon v. Dretke, 427 F.3d 286, 296 (5th Cir. 2005) (granting a certificate of appealability for failure to call ballistics expert).

98. *See* Elmore v. Ozmint, 661 F.3d 783, 871–72 (4th Cir. 2011) (explaining that apart from forensics, the State's case relied on a witness's account of a "spontaneous jailhouse confession," the defendant's "guilty demeanor," and "lack of a corroborated alibi").

99. Baylor v. Estelle, 94 F.3d 1321, 1324 (9th Cir. 1996) (quoting Thomas v. Goldsmith, 979 F.2d 746, 750 n.2 (9th Cir. 1992)).

100. *See* Dugas v. Coplan, 428 F.3d 317, 328–29 (1st Cir. 2005) (concluding that a defense attorney's "failure to thoroughly investigate the 'not arson' defense in this case was constitutionally deficient").

101. *See* Roberts v. Howton, 13 F. Supp. 3d 1077, 1103 (D. Or. 2014)

> [Counsel's] assessment of the evidence, and his failure to retain an expert, was not based upon a reasonable investigation or understanding of the evidence. Despite the critical importance of the cell tower evidence, [counsel] failed to take reasonable steps to collect the relevant data and independently evaluate the reliability of the Verizon technician's preliminary analysis before advising his client to plead guilty to manslaughter.

102. *See, e.g.*, Siehl v. Grace, 561 F.3d 189, 196 (3d Cir. 2009) (concluding that, because of the importance of the fingerprint evidence in the

pathology evidence concerning cause of death,[103] and pharmacological evidence concerning the potentially lethal effects of morphine.[104] Still additional rulings address failures to retain experts on the subject of eyewitness identifications.[105] And additional rulings address the failure to adequately prepare the expert witness, even when one is retained.[106] Professor Paul Giannelli has provided a very useful survey of cases finding the defense inadequate for failure to call experts.[107]

Both inculpatory and exculpatory forensics should be pursued. In a very interesting case, the claim was that the lawyer should have objected to a forensic expert's testimony seeking to minimize the exculpatory *lack* of forensic evidence, designed to counter any potential so-called CSI effect; the court said that it was not unreasonable for the lawyer not to counter or object to this testimony.[108] A common problem has been that analysts try

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Commonwealth's case, failing to "counter that expected testimony was ineffective because it effectively admitted that [the defendant] was the murderer"); Schell v. Witek, 218 F.3d 1017, 1028 (9th Cir. 2000) (finding that failure to seek the opinion of a fingerprint expert "could have constituted ineffective assistance of counsel" where the "only evidence was one fingerprint").

103. *See, e.g.*, Beams v. Chappell, No. 1:10-cv-01429-AWL, 2013 WL 5754938, at *19–20 (E.D. Ca. Oct. 23, 2013) (concluding that where the prosecution's case relies on expert testimony regarding the cause of death, "it was not a reasonable strategy for [counsel] to have failed to consult an expert to adequately evaluate the prosecution's evidence . . . .").

104. *See, e.g.*, Showers v. Beard, 635 F.3d 625, 634 (3d Cir. 2011) (explaining that "rebuttal testimony from a credible, objective expert witness . . . would have cast serious doubt on the prosecution's case and there is a reasonable probability the outcome would have been different").

105. *See, e.g.*, Sturgeon v. Quarterman, 615 F. Supp. 2d 546, 568 (S.D. Tex. 2009) (describing defendant's ineffective assistance of counsel claim based on defense counsel's failure to present testimony from an expert witness on eyewitness identification).

106. *See id.* at 572–73 (concluding that counsel's deficient performance in preparing an anticipated expert to testify about the unreliability of eyewitness identifications "demonstrated a constitutional violation of the right to effective assistance of counsel . . . . ").

107. *See* Giannelli, *supra* note 17, at 5 (providing numerous examples of cases in which defense attorneys were found ineffective for failing to call experts in a wide range of subjects, including psychiatry, gunshot residue analysis, DNA, and handwriting comparison).

108. *See* Jones v. Warden, Wash. Corr. Ctr., No. 12-1012, 2012 WL 5472553, at *20 (E.D. La. Sept. 13, 2012) (concluding that failure to object to the expert's statements was not an error, but instead that the decision was "sound trial strategy" and that "[c]ounsel's professional or tactical judgment is not to be

to explain away exculpatory evidence, and the standards for deeming traditional forensics to be excluded have not always been sufficiently clear. The power of exculpatory evidence can be quite great, and courts should be far more attentive to the defense obligation to litigate exculpatory forensics. Instead, some courts have held that any result of a not-pursued forensic test might not be exculpatory, or even if it was, it might not have sufficiently assisted the defense case; to be sure, in some cases, the forensic technique itself may not have been particularly probative or likely to obtain a result.[109]

Plea bargaining has taken on an increased importance in ineffective assistance of counsel rulings, as it has come to dominate criminal practice, and the Supreme Court has strengthened the obligations of defense counsel during plea bargaining.[110] We increasingly see rulings regarding the obligations of counsel to investigate and litigate forensics before negotiating a guilty plea. In one case, for example, the district court emphasized that the defendant would not have reasonably pleaded guilty had she known of the deficiencies in the prosecution's cell tower evidence.[111]

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questioned in hindsight").

109. *See* United States v. Paladino, 401 F.3d 471, 478 (7th Cir. 2005) (explaining "[t]hat there [i]s no fingerprint evidence mean[s] simply that there [i]s no fingerprint evidence," and noting that often it is not possible to develop latent fingerprints on firearms"); United States v. Gary, 341 F.3d 829, 834 (8th Cir. 2003) (calling the defendant's claim regarding lack of fingerprint analysis "highly speculative"); United States v. Aquino, 54 Fed. App'x 505, 507 (2d Cir. 2002) (rejecting the defendant's claim for ineffective assistance of counsel based on failure to investigate fingerprint evidence); Hunt v. Vasquez, No. 92-16175, 1993 WL 33863, at *3 (9th Cir. Feb. 11, 1993) (noting that "[t]he fact that there were other fingerprints on the bag" does not prove the defendant's innocence, but "merely demonstrates that other persons handled the bag before it was tested for fingerprints").

110. *See, e.g.*, Missouri v. Frye, 132 S. Ct. 1399, 1407–08 (2012) ("[C]riminal defendants require effective counsel during plea negotiations. 'Anything less . . . might deny a defendant's effective representation by counsel at the only stage when legal aid and advice would help him.'" (quoting Massiah v. United States, 377 U.S. 201, 204 (1964))); Lafler v. Cooper, 132 S. Ct. 1376, 1385 (2012) (explaining that "[i]n the context of pleas a defendant must show the outcome of the plea process would have been different with competent advice").

111. *See* Roberts v. Howton, 13 F. Supp. 3d 1077, 1103 (D. Or. 2014) (explaining that "despite the critical importance of the cell tower evidence" counsel failed to collect data, and evaluate the technician's preliminary analysis, and "there is a reasonable probability that, but for counsel's deficient conduct,

B. Failures to Request Daubert *or* Frye[112] *Hearings*

Failures to make *Daubert* or *Frye* objections to the admissibility of an expert are more difficult to prevail upon, although they should be taken seriously in an era when the scientific community has recognized that there are important methodological and reliability-based concerns with a range of forensic techniques.[113] Lower courts often cite to the difficulty in succeeding on such a challenge given how widely accepted many forensic techniques have become in the courts, if not in the scientific community. While such rulings are not surprising, for example, in cases involving straightforward forms of DNA testing,[114] courts have been far more open to such claims in the context of more troubling forensic techniques. For example, in 2007, the Sixth Circuit granted such a claim in the context of bite-mark comparison testimony.[115] Similarly, a federal district judge granted the claim for failure to request a *Daubert* hearing

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petitioner would not have pled guilty and would have insisted on going to trial").

112. Frye v. United States, 293 F. 1013 (D.C. 1923).

113. *See* Sowell v. Morgan, No. 1:10-cv-02377, 2011 WL 7404718, at *20–21 (N.D. Ohio Dec. 2, 2011) (finding no ineffectiveness for failure to make a *Daubert* objection to gunshot residue expert); Akins v. Kenney, 533 F. Supp. 2d 935, 951 (D. Neb. 2008) (finding no ineffectiveness for failure to bring a *Frye* challenge to ballistics expert); Knight v. Walsh, 524 F. Supp. 2d 255, 301 (W.D.N.Y. 2007) (finding no ineffectiveness for not calling a DNA expert where counsel "extensively" cross-examined the state's witnesses). For additional examples in cases involving DNA evidence, see, e.g., *Ziegler v. Secretary, DOC*, No. 3:11-cv-1099-J-39JRK, 2014 WL 6608823, at *9–11 (M.D. Fla. Nov. 20, 2014); *United States v. Benson*, No. 10-269, 2014 WL 4113098, at *2–3 (D. Minn. Aug. 20, 2014); *Van Hodges v. United States*, No. 6:12cv322, 2012 WL 6934624, at *6 (E.D. Tex. Nov. 20, 2012); *Brown v. Cain*, No. CV06-0336 2007 WL 2478762, at *7–8 (W.D. La. Aug. 29, 2007).

114. *See* Commonwealth v. Avila, 912 N.E.2d 1014, 1033–34 (Mass. 2009) (concluding that trial counsel was "not ineffective in failing to make a *Daubert-Lanigan* challenge to the ballistics testimony" because there is a "dearth of appellate or indeed any case law" accepting such a challenge); *see also* People v. Snell, No. 2-08-0949, 2011 WL 10088352, at *16 (Ill. App. Ct. 2d Dist. Jan. 21, 2011) (finding counsel not ineffective for failure to make a *Frye* challenge to Shaken Baby Syndrome testimony, finding it generally recognized as admissible); State v. Leibhart, 662 N.W.2d 618, 628 (Neb. 2003) (same).

115. *See* Ege v. Yukins, 485 F.3d 364, 379–80 (6th Cir. 2007) (finding that counsel's deficient performance constituted cause and prejudice to excuse procedural default). *But see* United States v. Bourgeois, No. C-02-CR-216, 2011 WL 1930684, at *93–95 (S.D. Tex. May 19, 2011) (finding any error harmless).

on arson evidence, where counsel knew there were problems with the reliability of such evidence, as well as with "extravagant" testimony from a dog handler who claimed to be able to detect evidence of arson.[116] The rulings are quite mixed, however. In a case involving shoe impression comparison, the Sixth Circuit heavily emphasized how the defense had "labored hard," although also emphasizing a substantive view that the evidence itself was reliable, peer-reviewed, and based on a sound methodology.[117] In a series of cases involving fingerprint evidence, courts have similarly held that defense counsel was not ineffective for failure to request hearings to challenge admissibility of the evidence, in part because the courts found the evidence to be sufficiently reliable.[118]

Still additional rulings implicate defense failures not just to challenge the reliability of the evidence through pretrial hearings, but to ask for relief short of outright exclusion, such as through motions *in limine* seeking to limit the scope of the testimony. For example, a federal district judge granted relief in a case, noting: "[t]rial counsel never challenged the validity or reliability of the testimony of [the three witnesses] either prior to or during the trial, much less called for any limitations on their testimony even when there were substantial grounds to do so."[119]

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116. *See* United States v. Hebshie, 754 F. Supp. 2d 89, 127 (D. Mass. 2010) ("[T]o say that the exclusion of either the accelerant laboratory analysis or the canine evidence would have undermined this verdict and grievously prejudiced Hebshie, is an understatement. There would have been no case at all.").

117. *See* Mahone v. United States, No. 03-93-B-W, 2008 WL 504012, at *4–5 (D. Me. Feb. 20, 2008) (discussing the admissibility of the evidence under *Daubert*).

118. *See* Knight v. Walsh, 524 F. Supp. 2d 255, 298–99 (W.D.N.Y. 2007) (discussing the evidence supporting the defendant's conviction); United States v. Mitchell, Nos. 05-cv-823, 96-cr-407-1, 2007 WL 1521212, at *13 (E.D. Pa. May 21, 2007) (concluding that while defendant's counsel was deficient for failing to call experts at trial, there was no prejudice because he did not establish that the jury would have returned a different verdict but for the error); Li v. Phillips, 358 F. Supp. 2d 135, 142, 145 (E.D.N.Y. 2005) (explaining that the evidence against the petitioner that supported the conviction was "overwhelming").

119. *Hebshie*, 754 F. Supp. 2d, at 92–93.

C. Failures to Cross-Examine Analysts

While the Sixth Amendment rulings by the Supreme Court emphasize the importance of the defense right to cross-examine testimonial witnesses, when defense lawyers fail to call witnesses or engage in meaningful cross-examination at trial given the opportunity, post-conviction courts are far less concerned with the benefits of careful cross-examination, and they often view such decisions as questions of trial strategy.[120] *Strickland* rulings regarding failure to call defense experts often emphasize that the attorney effectively cross-examined the prosecution expert on the stand and could call into question the forensics in the courtroom in that way. Yet a series of *Strickland* cases also deny relief for the failure to cross-examine prosecution witnesses. For example, cases have found failure to cross-examine DNA analysts not to be ineffective, perhaps because of the perception that there would be little that could be brought out through cross-examination.[121] Failures to question the prosecution expert's credentials have occasionally resulted in relief; there have been notorious cases in which forensic analysts had misstated their qualifications.[122] Other cases link the failure to investigate the forensic evidence with the subsequent failure to question it through cross-

120. For a somewhat dated example, see, e.g. *Waters v. Thomas,* 46 F.3d 1506, 1512 (11th Cir. 1995) ("Which witnesses, if any, to call, and when to call them, is the epitome of a strategic decision and it is one that [the courts] will seldom, if ever, second guess.") (citing Solomon v. Kemp, 735 F.2d 395, 404 (11th Cir. 1984)).

121. *See* Moeller v. Weber, 649 F.3d 839, 846–47 (8th Cir. 2011) (affirming the South Dakota Supreme Court's decision that counsel's failure to cross examine at the *Daubert* hearing was trial strategy, and that even if defendant had won his challenge to a portion of the DNA evidence, there was nothing else to support excluding any other DNA evidence).

122. *See* United States v. Williams, 233 F.3d 592, 593 (D.C. Cir. 2000). In a federal case in Washington D.C., the prosecution expert who determined that the evidence seized was packaged in the manner that dealers typically utilized, testified without any defense objection: "I am also a Board-certified pharmacist. I receive, maintain compound and dispense narcotic, as well as non-narcotic substances per prescription." *Id.* As it turned out, the expert was not a pharmacist and had no degree in pharmacology; the testimony was perjured. *Id.* However, the court concluded that a new trial was not warranted (the claim was made under Federal Rule of Criminal Procedure 33, not ineffective assistance of counsel) because there was no evidence that the result at a new trial would be an acquittal, given the difficulty in providing an innocent explanation for carrying 725 baggies of heroin. *Id.* at 594–95.

examination at trial. For example, in an Eighth Circuit case, the panel concluded that: "At the very least, any reasonable attorney under the circumstances would study the State's laboratory report with sufficient care so that if the prosecution advanced a theory at trial that was at odds with the serology evidence, the defense would be in a position to expose it on cross-examination."[123]

D. Lack of Prejudice

It is typical in litigation of ineffective assistance of counsel claims, for courts to find that any failures by counsel did not prejudice the defense, including by citing to seemingly "overwhelming" evidence of guilt. This may be particularly true in situations in which the forensics played a sideline role in a criminal case. Even where forensics did play an important role, though, some courts, though, as in *Richter*, express the concern that retaining additional experts might hurt the defense, where it is not clear what additional testing or analysis might uncover.[124] Relatedly, and more connected to the *Strickland* standard, courts emphasize the lack of prejudice for failures to pursue additional forensic testing.[125] And still additional rulings rely on complex procedural and merits-based standards that regulate post-conviction litigation, such as the restrictions imposed by the AEDPA,[126] when they deny relief.[127]

123. Driscoll v. Delo, 71 F.3d 701, 709 (8th Cir. 1995).

124. *See e.g.*, Armstrong v. Harry, No. 09-cv-14808, 2012 WL 246247, at *9 (E.D. Mich. Jan. 26, 2012) (concluding that "defense counsel was not ineffective for failing to call a defense expert witness on fingerprint identification" because "there was no basis for concluding that a fingerprint expert could have provided a substantial defense"); Jurbala v. United States, No. 04-94-GMS, 2011 WL 767175, at *6 (D. Del. Feb. 25, 2011) (concluding that there was no prejudice because Jurbala was unable to identify expert witnesses who could not identify expert witnesses who would produce rebuttal evidence).

125. *See, e.g.*, Rhoades v. Henry, 598 F.3d 495, 506 (9th Cir. 2010) (concluding that given the "strong" evidence of the defendant's guilt, the fact that more specific DNA testing was not performed to conclusively eliminate the defendant as a suspect was not prejudicial); Dang v. Lampert, 135 Fed. App'x 13, 14 (9th Cir. 2005) (concluding that defense counsel was not ineffective in declining to pursue forensic testing because the defendant insisted on going to trial in thirty days and the test results could have been unfavorable).

126. Antiterrorism and Effective Death Penalty Act of 1996, Pub. L. 104-132, 110 Stat. 1214 (2012).

127. *See, e.g.*, Bishop v. Warden, 726 F.3d 1243, 1257–58 (11th Cir. 2013)

Post-conviction litigation is not an easy way to raise accuracy objections to trial evidence. Evidentiary errors are not normally treated as matters of constitutional concern, and the claims that can be raised in federal habeas corpus proceedings must be procedurally and factually preserved, with serious constitutional errors that resulted in real prejudice at trial.

E. Changing Defense and Prosecution Standards

Rulings concerning ineffective assistance of counsel have long relied on what is reasonable given accepted standards in the criminal bar. Those standards are changing. It is now well understood that the defense has an obligation to conduct an independent factual investigation of the case, and not just rely on prosecution evidence.[128] Criminal defense organizations increasingly provide resources and training on forensics issues.[129] The American Bar Association has released new reports on the importance of careful attention to forensic evidence, and those recommendations apply to both defense lawyers and prosecutors.[130] While the Supreme Court's rulings regarding

(applying the deferential AEDPA standard to conclude that counsel was not ineffective for failing to present testimony from a blood spatter expert because the evidence did not reduce the defendant's involvement in the crime); Williams v. Thaler, 684 F.3d 597, 605 (5th Cir. 2012) (denying relief under the "highly deferential" standard of AEDPA because defense counsel's failure to obtain reports was not prejudicial); Gentry v. Sinclair, 609 F. Supp. 2d 1179, 1185–86 (W.D. Wash. 2009) (denying ineffective assistance of counsel claims based on failure to argue statistical unreliability of testing because there was no "manifest error" by the lower court).

128. *See* Rompilla v. Beard, 545 U.S. 374, 387 (2005) ("'It is the duty of the lawyer to conduct a prompt investigation of the circumstances of the case and to explore all avenues leading to facts relevant to the merits of the case and the penalty in the event of conviction.'" (quoting 1 STANDARDS FOR CRIMINAL JUSTICE 4-4.1 (AM. BAR ASS'N 2d ed. 1982 Supp.))).

129. *See, e.g.*, *Forensics Resources*, NORTH CAROLINA OFFICE OF INDIGENT DEFENSE SERVICES, http://www.ncids.com/forensic/ (last visited Sept. 21, 2016) (providing a list of forensic science resources for defense counsel) (on file with the Washington and Lee Law Review).

130. *See generally* AM. BAR ASS'N CRIMINAL JUSTICE SECTION, ACHIEVING JUSTICE: FREEING THE INNOCENT, CONVICTING THE GUILTY: REPORT OF THE ABA CRIMINAL JUSTICE SECTION'S AD HOC INNOCENCE COMMITTEE TO ENSURE THE INTEGRITY OF THE CRIMINAL PROCESS (Paul Giannelli & Myrna Raeder eds., 2006).

effective assistance of counsel during plea bargaining, recognizing that our criminal justice system "is for the most part a system of pleas," have focused on collateral consequences and communicating plea offers and their consequences to the client, in the years to come, it will not be at all surprising if the failure to communicate exculpatory forensic evidence or adequately investigate during plea negotiations will become the subject of more right to counsel rulings.[131]

These changes in the criminal defense and prosecution bar could be further cemented in professional standards. Former federal judge Nancy Gertner has argued that standards for effective criminal advocacy must change and "the standard with respect to scientific evidence should be different."[132] One scholar has proposed that the Model Rules of Professional Responsibility be amended to include language that a lawyer must "consider the need for expert scientific and technical assistance in a case, and to advise his or her client of this need if one exists."[133] A federal judge, Judge Gertner, promulgated a standing order directing lawyers on both sides to identify and provide disclosures concerning "trace evidence" issues in criminal cases pre-trial.[134] Such rules should be routine, as should broad disclosure and discovery of complete files concerning forensic analysis, including bench notes and lab reports.

131. *See* Missouri v. Frye, 132 S. Ct. 1399, 1407 (2012) ("[P]lea bargains have become so central to the administration of the criminal justice system that defense counsel have responsibilities in the plea bargain process, responsibilities that must be met to render the adequate assistance of counsel that the Sixth Amendment requires in the criminal process at critical stages.").

132. Nancy Gertner, *Commentary on the Need for a Research Culture in the Forensic Sciences*, 58 UCLA L. REV. 789, 793 (2011).

133. Hannah Jacobs Wiseman, *Pro Bono Publico: The Growing Need for Expert Aid*, 60 S.C. L. REV. 494, 540 (2008).

134. *See generally* Procedural Order: Trace Evidence 1 (D. Mass. Mar. 2010), http://www.mad.uscourts.gov/boston/pdf/ProcOrderTraceEvidenceUPDATE.pdf.

IV. Due Process and Forensic Science

A. The Right to a Fair Trial

While the admissibility of evidence is primarily a matter of state law, the Supreme Court has long held that in narrow circumstances, if a trial error "so infect[s] the entire trial" as to deny fundamental fairness, a due process claim may lie.[135] The Third Circuit and the Ninth Circuit have held that flawed forensic testimony can violate the Due Process Clause if the petitioner can show that the testimony "undermined the fundamental fairness of the entire trial."[136] In the Third Circuit case, *Lee v. Superintendent*,[137] the court emphasized that the district court had found that the testimony by a fire expert "undermined the fundamental fairness of the entire trial" because the "verdict . . . rest[ed] almost entirely upon scientific pillars which have now eroded."[138] The various indicia of arson relied upon at a trial held in 1990 were no longer supported by science, including failure to do independent chemical testing to assess whether there was an accelerate, and the lack of any signs that there were the "more than 60 gallons of gas and fuel oil" that the expert had testified caused the fire.[139] In such cases, the courts reasoned that the claim was distinct from a new evidence of innocence claim, since the evidence was not proof of innocence,

135. Cupp v. Naughten, 414 U.S. 141, 147 (1973); *see also* Henderson v. Kibbe, 431 U.S. 145, 154 (1977) (citing Cupp v. Naughten, 414 U.S. 151, 147 (1973)); Donnelly v. DeChristoforo, 416 U.S. 637, 642–43 (1974) (same). The Court has stated that it has "defined the category of infractions that violate 'fundamental fairness' very narrowly." Dowling v. United States, 493 U.S. 342, 352 (1990).

136. Lee v. Superintendent, 798 F.3d 159, 162 (3d Cir. 2015) (quoting Lee v. Glunt, 667 F.3d 397, 403 (3d Cir. 2012)); *see also* Giminez v. Ochoa, 821 F.3d 1136, 1145 (9th Cir. 2016) ("We join the Third Circuit in recognizing that habeas petitioners can allege a constitutional violation from the introduction of flawed expert testimony at trial if they show that the introduction of this evidence 'undermined the fundamental fairness of the entire trial.'" (quoting Lee v. Superintendent, 798 F.3d 159, 162 (2015))).

137. 798 F.3d 159 (3d Cir. 2015).

138. Lee v. Tennis, No. 4:08-CV-1972, 2014 WL 3894306, at *15–16 (M.D. Pa. June 13, 2014). The Third Circuit had earlier remanded the case for further hearings. Lee v. Glunt, 667 F.3d 397, 403–04 & 403 n.5, (3d Cir. 2012) (remanding for additional discovery).

139. *Lee*, 798 F.3d at 167 (quoting *Lee*, 2014 WL 3894306, at *7).

but rather undercut the validity of the scientific expert testimony. On that reasoning, where the forensic evidence was central evidence at trial, and new scientific research shows that it was erroneous, a due process claim may be brought on that general fundamental fairness theory.

B. Brady *and Forensics*

The constitutional regulation of forensic science could be buttressed if the right to effective assistance of counsel were better tied to due process rulings regarding discovery in the criminal process. The Supreme Court has repeatedly held that the police and prosecutors, together, have a *Brady v. Maryland* obligation to provide the defense with exculpatory and impeachment evidence.[140] This obligation is both longstanding and underdeveloped in the context of forensic evidence.[141] One explanation may be the separation between not just prosecutors and law enforcement, but also between both prosecutors and law enforcement, and then the crime laboratories that often conduct the forensic analysis. Some courts have ruled that the relevant or material information that must be conveyed from the lab to the prosecutor is the result of the analysis, and not the underlying

140. *See* Brady v. Maryland, 373 U.S. 83, 87 (1963) ("We now hold that the suppression by the prosecution of evidence favorable to an accused upon request violates due process where the evidence is material either to guilt or punishment, irrespective of the good faith or bad faith of the prosecution.").

141. *See* Paul C. Giannelli, *Criminal Discovery, Scientific Evidence, and DNA*, 44 VAND. L. REV. 791, 809 (1991) (discussing limitations on discovery of reports and bench notes); Paul C. Giannelli, *Bench Notes & Lab Reports*, 22 CRIM. JUST., 50, 50–51 (Summer 2007) (discussing issues surrounding the failure to produce forensic bench notes containing potentially exculpatory evidence in discovery); *see also* 2 STANDARDS FOR CRIMINAL JUSTICE, 11-2.1(a)(iv) CMT. (AM. BAR ASS'N 2d ed. 1980 & Supp. 1986) (discussing disclosure of forensic experts' materials); ABA STANDARDS FOR CRIMINAL JUSTICE: DNA EVIDENCE 16-4.1 at 81 (AM. BAR ASS'N 3d ed. 2007) (recommending disclosure of laboratory case notes); FED. R. CRIM. P. 16 advisory committee's note to 1974 amendment (stating that term "any results or reports" should be given liberal interpretation); United States v. Penix, 516 F. Supp. 248, 254–55 (W.D. Okla. 1981) (granting in part, defendant's motion for discovery under *Brady v. Maryland*). For examples of cases involving failure to disclose ballistics dating back decades, see Jay M. Zitter, *Failure of State Prosecutor to Disclose Exculpatory Ballistic Evidence as Violating Due Process*, 95 A.L.R. 5th 611 (2002).

methods and files that might shed light on any weaknesses or outright flaws in the analysis, although other courts disagree and require that all underlying reports of tests or procedures used must be provided as well, and the American Bar Association similarly counsels that full documentation be provided.[142] This split in approaches is in contrast to the emphasis in Confrontation Clause rulings on the provision of testimony from the expert who conducted the analysis, and not just the bare certificate reporting the result.[143] Moreover, regarding *Giglio*[144] impeachment information, still additional information must be provided regarding the credentials, proficiency, and standard operating procedures that the analysts were supposed to have followed in the laboratory, together with the file permitting one to discern if they were in fact followed. Absent complete discovery on such matters, prosecutors cannot fully comply with their constitutional obligations.

142. *See, e.g.*, United States v. Iglesias, 881 F.2d 1519, 1523–24 (9th Cir. 1989) (acknowledging that although internal lab notes "would allow Iglesias to provide a more effective defense, the government is under no legal duty under Rule 16(a)(1)(D) to turn over such informal internal documents"); Spencer v. Commonwealth, 384 S.E.2d 785, 791 (Va. 1989) (concluding that Rule 3A:11 does not require disclosure of internal documents made in connection with the case and that due process does not require discovery); United States v. Berry, 636 F.2d 1075, 1082 (5th Cir. 1981) (concluding that experts' "personal work notes" are not required to be disclosed under Rule 16(a)(1)). *But see* State v. Cunningham, 423 S.E.2d 802, 807–08 (N.C. Ct. App. 1992) (ruling that state law "must be construed as entitling a criminal defendant to pretrial discovery of not only conclusory laboratory reports, but also of any tests performed or procedures utilized by chemists to reach such conclusions"); State v. Schwartz, 447 N.W.2d 422, 427 (Minn. 1989) ("[F]air trial and due process rights are implicated when data relied upon by a laboratory in performing tests are not available to the opposing party for review and cross examination."); State v. Burgess, 482 So. 2d 651, 653 (La. Ct. App. 1986) ("Fundamental fairness and due process require that the defense be given the opportunity, prior to trial, to examine the basis from which an expert reaches his conclusion."). For civil *Brady* case denying relief where the underlying lab notes would have disclosed that evidence could have been DNA tested to prevent a wrongful conviction, see *Villasana v. Wilhoit*, 368 F.3d 976, 977–78 (8th Cir. 2004).

143. *See* Melendez-Diaz v. Massachusetts, 557 U.S. 305, 318 (2009) ("[T]he analyst who provides false results may, under oath in open court, reconsider his false testimony . . . . the prospect of confrontation will deter fraudulent analysis in the first place.") (citation omitted).

144. Giglio v. United States, 405 U.S. 150 (1972).

In a leading case regarding the *Brady* obligations of prosecutors, the Supreme Court in *Connick v. Thompson*[145] declined to impose civil liability on an entire prosecutor's office for failure to train and supervise officers on those obligations, in a case in which exculpatory blood evidence was outright concealed from the defense, leading to the wrongful conviction of a man for murder.[146] That said, *Connick* was a civil case seeking municipal liability. Criminal cases may increasingly litigate *Brady* claims concerning concealed forensics. Indeed, entire crime labs have been besieged by systemic litigation concerning lab scandals.[147] Jurisdictions may improve criminal discovery not just to satisfy due process obligations but also to avert costly and protracted systemic audits and litigation. Systemic *Brady* deficiencies could be averted by a careful interpretation of *Brady* to apply to full-file discovery of forensic evidence; even if *Brady* does not require open-file discovery generally, the entire file may be necessary to understand what the forensic analysis consisted of, and not just the bare result.

The obligations to disclose potentially exculpatory forensic evidence, together with impeachment evidence related to the work of forensic analysts, during plea bargaining will hopefully also be strengthened in the years ahead. It remains unclear under the Supreme Court's ruling in *Ruiz*,[148] the extent to which prosecutors must supply exculpatory evidence during plea bargaining.[149] A system of plea bargaining in which exculpatory

145. 563 U.S. 51 (2011).

146. *Id.* at 68 ("We do not assume that prosecutors will always make correct *Brady* decisions or that guidance regarding specific *Brady* questions would not assist prosecutors. But showing merely that additional training would have been helpful in making difficult decisions does not establish municipal liability.").

147. *See* Commonwealth v. Charles, 992 N.E. 2d 999, 1003–04 (Mass. 2013) ("In October, 2012, the Chief Justice of the Superior Court assigned specific judges in seven counties to preside over special 'drug lab sessions' . . . . From October 15 to November 28, the judges presiding over the drug lab sessions held 589 hearings, placing an enormous burden on the Superior Court.").

148. United States v. Ruiz, 563 U.S. 622 (2002).

149. *See id.* at 633 (concluding that "the Constitution does not require the Government to disclose material impeachment evidence prior to entering a plea agreement with a criminal defendant"). For a discussion of the open issue whether exculpatory, as opposed to impeachment evidence must be supplied during plea negotiations, see Samuel R. Wiseman, *Waiving Innocence*, 96 MINN.

forensics could be outright concealed from the defense would be the most unfair imaginable.

Most recently, the West Virginia Supreme Court, surveying various authorities, concluded that prosecutors are obligated to provide exculpatory forensic evidence to the defense during plea negotiations.[150] In *Buffey v. Ballard*,[151] the State contended that favorable DNA results, produced in early 2002, need not have been provided prior to a guilty plea later that year.[152] The defendant's lawyer reported having been "desperate" to hear the results of the DNA testing, but was told that the results were "not yet complete;" the State had offered Buffey a time-limited plea offer, and Buffey ultimately accepted it without being told that the DNA results had excluded him six weeks earlier.[153] While the DNA tests clearly excluded Buffey as either of the contributors of sperm in a case involving rape, the State maintained that Buffey would have pleaded guilty regardless, that the results were not material, and that the results did not conclusively rule out his involvement.[154] The West Virginia Supreme Court rejected these contentions, holding none of those arguments "detract from the exculpatory nature of the evidence of DNA testing or its materiality."[155]

Brady and *Strickland* claims can also operate at cross-purposes, and judges have sometimes excused, for example, prosecutorial misconduct, by arguing that defense lawyers should have known that forensic evidence was available or unreliable.[156]

L. REV. 952, 992 (2012).

150. *See* Buffey v. Ballard, 782 S.E.2d 204, 216 (W. Va. 2015) ("Having scrutinized the reasoning of other jurisdictions, this Court finds that the better-reasoned authority supports the conclusion that a defendant is constitutionally entitled to exculpatory evidence during the plea negotiation stage.").

151. 782 S.E.2d 204 (W. Va. 2015).

152. *See id.* at 219–20 (rejecting the State's argument that because it was unaware of the status of the DNA testing, it was not in violation of its *Brady* obligations because evidence showed the State had been notified of the exculpatory results prior to the plea).

153. *Id.* at 208.

154. *Id.* at 220 ("The State relies heavily upon its assertion that Petitioner would have pled guilty regardless of any favorable DNA test results . . . . [Defense counsel] specifically indicated that he would have advised the Petitioner not to plead guilty if he had obtained the favorable test results.").

155. *Id.*

156. *See, e.g.*, John H. Blume & Christopher Seeds, *Reliability Matters:*

A better understanding of the ethical obligations on both sides should mitigate this judge-created Catch-22 situation in which post-conviction judges excuse the failures of defense lawyers or of prosecutors by blaming the other lawyers at the expense of the convict.[157] For broader due process reasons beyond *Brady,* for example, the State should be required to accede to defense requests to provide access to or test forensic evidence, or to conduct database searches in law enforcement databases to potentially locate another culprit.[158]

C. Fabrication and Forensics

The Supreme Court could also revisit its due process rulings concerning destruction or fabrication of forensic evidence. Regarding destruction of evidence, the Court's *Youngblood*[159] ruling permits negligent destruction of key forensic evidence, so long as it was not willful or in "bad faith."[160] Perhaps the presentation of false evidence, such as a false assertion by a forensic analyst on the stand, should support relief under *Napue v. Illinois.*[161] Forensic analysts, at least prior to the National Academy of Sciences Report in 2009, often made unsupported and false claims on the stand, such as that there was a zero error rate in conducting latent fingerprint comparisons, or using statistics to support disciplines for which no statistical research has been done. False assertions to support forensic conclusions can and should be more carefully scrutinized under *Napue.* Some federal courts have also discussed such claims in the context of civil § 1983 lawsuits brought against forensic analysts by wrongful

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Reassociating Bagley *Materiality,* Strickland *Prejudice, and Cumulative Harmless Error*, 95 J. CRIM. L. & CRIMINOLOGY 1153, 1153 (2005) (arguing that rather than view such class apart or at cross-purposes, "courts should consider the impact of Brady violations and Strickland violations together when evaluating whether a guilty verdict or death sentence is reliable").

157. *See* Brandon L. Garrett, *Claiming Innocence*, 92 MINN. L. REV. 1629, 1664–65 (2008).

158. Regarding division of approaches regarding defense requests for DNA databank searches, see id. at 1659–60.

159. Arizona v. Youngblood, 488 U.S. 51 (1988).

160. *Id.* at 57.

161. 360 U.S. 264 (1959).

convicted individuals, including DNA exonerees, and sometimes including both fabrication and *Brady v. Maryland* claims together.[162]

State courts may have parallel state law standards, and indeed state courts, including in West Virginia and Massachusetts have conducted large-scale audits and reopening of cases tainted by false forensic testimony.[163] State statutes regarding newly discovered evidence, and statutes addressing changed scientific understanding, as well as rulings granting relief based on changed scientific evidence, continue to impact the way that scientific and forensic evidence is litigated post-conviction. State law may play an increasingly important role, as states like California and Texas enact statutes specifically designed to permit post-conviction litigation of changed scientific evidence, where it is not an entirely new technology like a DNA test that is being used, but rather a change in the understanding of the reliability of the evidence that supported a criminal conviction.[164] After all, evidence may not have been litigated

162. *See, e.g.*, Gregory v. City of Louisville, 444 F.3d 725, 739 (6th Cir. 2005) (explaining that "nontestimonal, pretrial acts" such as falsifying evidence, "do not benefit from absolute immunity, despite any connection these acts might have to later testimony"); Atkins v. County of Riverside, 151 Fed. App'x 501, 505–06 (9th Cir. 2005) (explaining that the fact that an investigator fabricated evidence during an investigation would "instantly upset the credibility of the rest of the police investigation" and suppressing such a fact is a "sufficient basis for a *Brady* claim"); Pierce v. Gilchrist, 359 F.3d 1279, 1300 (10th Cir. 2004) (noting petitioners' claims that the prosecutor established a policy of using false evidence and acted with "deliberate indifference to the risk that his subordinates would introduce false evidence . . . ."); Hunt v. McDade, No. 98-6808, 2000 WL 219755, at *4 (4th Cir. Feb. 25, 2000) (describing Hunt's § 1983 *Brady*-based claims for failure to disclose availability of alternative DNA testing methods as well as a number of documents); Garrett, *Claiming Innocence*, *supra* note 157, at 1663 (noting that courts are divided on applying *Brady* in DNA cases and comparing two cases with similar DNA testing claims that reached markedly different results).

163. *See supra* note 147 (discussing special court sessions held to address problems of inaccurate drug lab testing).

164. *See* CAL. PENAL CODE § 1473 (West Supp. 2015) (explaining that "false evidence" refers to either repudiated expert opinions or evidence that has been "undermined by later scientific research or technological advances"); TEX. CODE CRIM. PROC. ANN. ART. 11.073(b), (d) (West 2015) (permitting habeas relief based on scientific evidence that is currently available that was not available at the time of trial, and explaining that one factor for consideration is whether scientific knowledge or methods have changed since the time of trial or previous applications for habeas relief). For an excellent discussion regarding changes in

ineffectively, nor may it have been concealed or fabricated, if the evidence was sound at the time, but subsequent research has discredited the scientific basis for the conclusions reached. A better fit for situations like the bullet lead analysis in *Kulbicki* may be a due process or state law newly discovered evidence theory regarding shifted science.[165]

While fabrication of evidence remains a viable theory for relief, the practical challenge if the concern is with the analysis conducted in the laboratory, is showing that forensic evidence was purposefully altered. To do so, the defense might need access to discovery as to the lab reports and the like, to understand the process that the forensic analysts followed and whether there was any bad faith handling of evidence. That discovery is often not provided. Far more important than the Court's Confrontation Clause rulings would be a ruling that *Brady v. Maryland* does not entitle the defense to the bare fact of an exculpatory forensic conclusion, but rather the entire set of lab reports and bench notes and that to meaningfully impeach or confront a lab analyst, those same materials should be provided if the results are inculpatory. In contrast, if the fabrication theory relates to errors in testimony presented on the stand, then showing that false statements were made may be comparatively straightforward and based solely on the record.

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science and criminal cases, see Jennifer E. Laurin, *Criminal Law's Science Lag: How Criminal Justice Meets Changed Scientific Understanding*, 93 TEX. L. REV. 1751 (2015); *see also* David S. Mitchell, Jr., Comment, *Lock 'Em Up and Throw Away the Key: "The West Memphis Three" and Arkansas's Statute for Post-Conviction Relief Based on New Scientific Evidence*, 62 ARK. L. REV. 501, 531 (2009) (explaining that new forensic testing revealed evidence providing reasonable doubt about a defendant's guilt, entitling him to a new trial under Arkansas law that provided post-conviction relief based on new discoveries in scientific evidence).

165. For a discussion of this problem, see generally Caitlin M. Plummer and Imran J. Syed, *Shifted Science Revisited: Percolation Delays and the Persistence of Wrongful Convictions Based on Outdated Science*, 64 CLEV. ST. L. REV. 483 (2016); Caitlin Plummer & Imran Syed, *"Shifted Science" and Post-Conviction Relief*, 8 STAN. J.C.R. & C.L. 259 (2012).

D. Defense Access to Forensics

While the Supreme Court declined to recognize a freestanding substantive due process post claim seeking defense access to forensics in *Dist. Attorney's Office v. Osborne*,[166] it is crucial and well established that the defense must have access to such evidence before entering a plea agreement or undergoing a trial. For that reason, the Court should, as many commentators have suggested, at long last reconsider the application of its *Ake*[167] line of cases where the defense is all too routinely denied access to forensic experts, despite the centrality of forensics to their case.[168] Over time, as courts better appreciate in which cases forensics play a central role, courts may also become more open to considering whether forensics can support and attack to the sufficiency of the evidence to convict.[169] Due process sufficiency of the evidence claims are very difficult to prevail upon, but they should be carefully considered, particularly where central evidence is implicated.

V. Conclusion

It is not just the interpretation of one area of constitutional doctrine that has led to the present predicament in which forensic science is far too little regulated in criminal courts. It is the interpretation of multiple overlapping areas of criminal procedure. The U.S. Supreme Court has outright reversed course in its Confrontation Clause jurisprudence and emphasized the

166. 557 U.S. 52 (2009).

167. Ake v. Oklahoma, 470 U.S. 68 (1985).

168. *See* Paul C. Giannelli, Ake v. Oklahoma: *The Right to Expert Assistance in a Post-*Daubert, *Post-DNA World*, 89 CORNELL L. REV. 1305, 1320–24 (2004) (describing the increase in expert testimony and noting that defense attorneys "face[] unfamiliar categories of expert knowledge"); *see also* Caldwell v. Mississippi, 472 U.S. 320, 323 n.1 (1985) (finding no deprivation of due process in a decision by the trial judge to deny access to fingerprint and ballistics experts).

169. *See* McDaniel v. Brown, 558 U.S. 120, 128, 132 (2010) (discussing DNA evidence and conflicting expert evidence in a conviction for sexual assault); *see also* Cavazos v. Smith, 565 U.S. 1, 7–8 (2011) (denying relief on a sufficiency of the evidence claim, but describing disputes in the medical research and calling "[d]oubts about whether" the defendant is guilty "are understandable").

right to confront forensic scientists. Although this may promote more separation of functions within crime labs and some improvement in access to analysts on the stand, any effect on the reliability of forensics is highly attenuated. Far more promising are the Court's rulings in the area of the Sixth Amendment and fair trial right to effective assistance of counsel, which in combination with due process, and particularly *Brady v. Maryland* rulings, may more comprehensively regulate forensics in the future. Constitutional criminal procedure is not the primary source for regulating forensics, but as forensics grows in importance in our criminal justice system, criminal procedure will increasingly keep pace, as developed in the state and federal courts and ultimately in the U.S. Supreme Court. After all, both an effective defense and a sound prosecution hinge on the accuracy of the evidence used to produce a conviction.