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## Challenges to Fingerprint Identification Evidence: Why the Courts Need a New Approach to Finality

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**CHALLENGES TO FINGERPRINT IDENTIFICATION  
EVIDENCE: WHY THE COURTS NEED A NEW  
APPROACH TO FINALITY**

Sarah Lucy Cooper<sup>†</sup>

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I. INTRODUCTION

Fingerprint identification evidence has helped shape thousands of criminal cases in America. For over a century, the practice of “matching” a crime scene print to an inked suspect print, known as friction ridge analysis, has gained universal acceptance.<sup>1</sup> Proponents of fingerprint identification make three crucial claims: (1) “every individual possesses a unique and

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1. See Michael J. Saks, *Merlin and Solomon: Lessons from the Law’s Formative Encounters with Forensic Identification Science*, 49 HASTINGS L.J. 1069, 1100–01 (1998).

permanent set of fingerprints;<sup>2</sup> (2) fingerprint examiners can identify the donor of a crime scene print (a latent print) “to the exclusion of all others,” (i.e., engage in “individualization”);<sup>3</sup> and (3) fingerprint identification is infallible and has a zero, or close to zero, error rate.<sup>4</sup> As such, fingerprints are considered “powerful” evidence against defendants.<sup>5</sup>

Recently, however, the ability of many forensic disciplines,<sup>6</sup> like friction ridge analysis, to engage in individualization has been called into question. There are a number of reasons for this. First, the increasing tally of DNA exonerations has exposed the frailty of such disciplines, with invalidated and improper forensic evidence contributing to nearly half of the wrongful convictions (exonerated by DNA) identified by the Innocence Project to date.<sup>7</sup> According to Professor Carrie Sperling, “[a]s the number of DNA exonerations rises, concerns about flaws in the system have turned to a

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2. Nathan Benedict, *Fingerprints and the Daubert Standard for Admission of Scientific Evidence: Why Fingerprints Fail and a Proposed Remedy*, 46 ARIZ. L. REV. 519, 527 (2004) (citing Saks, *supra* note 1, at 1087).

3. Jacqueline McMurtrie, *Swirls and Whorls: Litigating Post-conviction Claims of Fingerprint Misidentification After the NAS Report*, 2010 UTAH L. REV. 267, 273 (2010) (“The fingerprint literature suggests that examiners testify as follows: Q: How sure are you that those two prints were made by the same finger? A: Absolutely sure! I don’t testify to probabilities.” (quoting Scientific Working Group on Friction Ridge Analysis, Study and Technology, SWGFAST Glossary 12 (Sept. 9, 2003), [http://www.swgfast.org/documents/glossary/030909\\_Glossary-Consolidated\\_ver\\_1.pdf](http://www.swgfast.org/documents/glossary/030909_Glossary-Consolidated_ver_1.pdf))).

4. McMurtrie, *supra* note 3, at 273–74 (“[T]he third premise of fingerprint identifications is one of ‘infallibility.’ Many in the latent fingerprint community . . . testify that the ACE-V comparison method has a ‘zero error rate.’ They claim that when the method is used by well-trained and experienced examiners, no errors are ever made, so that the method itself is error free. Thus, the claim is that erroneous identifications are only made by poorly trained or inexperienced practitioners. In other words, the ‘methodological’ (sometimes called ‘scientific’) error rate is zero while the ‘practitioner’ (sometimes called ‘human’) error rate is unknown.”).

5. James S. Liebman et al., *The Evidence of Things Not Seen: Non-matches as Evidence of Innocence*, 98 IOWA L. REV. 577, 601 (2013).

6. Many forensic sciences are inferior to DNA analysis, and as such are known as the “soft sciences.” DAVID MCCLURE, NAT’L INST. OF JUSTICE, FOCUS GROUP ON SCIENTIFIC AND FORENSIC EVIDENCE IN THE COURTROOM 6–8 (2007), <http://www.ncjrs.gov/pdffiles1/nij/grants/220692.pdf>.

7. See *The Causes of Wrongful Conviction*, INNOCENCE PROJECT, <http://www.innocenceproject.org/causes-wrongful-conviction> (last visited Mar. 16, 2016).

realization that evidence we once thought to be hard proof of guilt—confessions, eyewitness identifications, bite marks, ballistics—lack reliability.”<sup>8</sup> Second, “DNA evidence has become the gold-standard” that “has raised the bar as to what is scientifically acceptable for identifying a source ‘to the exclusion of all others.’”<sup>9</sup> Third, in 2009, the National Academy of Sciences (NAS) produced a landmark report—*Strengthening Forensic Science in the United States: A Path Forward*—which concluded that, “[w]ith the exception of nuclear DNA analysis . . . [,] 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.”<sup>10</sup> The NAS Report made some specific criticisms about friction ridge analysis, including that it was not properly “underpinned.”<sup>11</sup> Soon after the report was published, the U.S. Supreme Court acknowledged that many forensic sciences are subject to “[s]erious deficiencies.”<sup>12</sup> Unsurprisingly, defendants began using the NAS Report to bolster their appeals (and other motions), arguing the report’s findings supported a claim that fingerprint identification evidence is unreliable and should not have been (or be) admitted against them.<sup>13</sup> Numerous courts between 2009 and 2011 acknowledged

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8. Carrie Sperling, *When Finality and Innocence Collide*, in *CONTROVERSIES IN INNOCENCE CASES IN AMERICA* 139, 157 (Sarah Lucy Cooper ed., 2014).

9. Sarah Lucy Cooper, *The Collision of Law and Science: American Court Responses to Developments in Forensic Science*, 33 *PACE L. REV.* 234, 235–36 (2013) [hereinafter *Collision of Law and Science*] (citing NAT’L RESEARCH COUNCIL OF THE NAT’L ACADS., *STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD* 8 (2009) [hereinafter *NAS Report*]).

10. *NAS Report*, *supra* note 9, at 7.

11. *See id.* at 144 (suggesting that, “[t]o properly underpin the process of friction ridge identification, additional research . . . into ridge flow and crease pattern distributions” is needed).

12. *Melendez-Diaz v. Massachusetts*, 557 U.S. 305, 319 (2009).

13. *See* Wayne G. Plumtree, *A Perspective on the Appropriate Weight to Be Given to the National Academy of Sciences’ Report on Forensics in Evidentiary Hearings: The Significance of Continued Court Acceptance of Fingerprint Evidence*, 42 *SW. L. REV.* 605, 608–09 (2013) (“[T]he defense bar nationwide utilized the report as a foundation for motions to exclude fingerprint evidence or to severely restrict expert testimony . . . .”); *see, e.g.*, *United States v. Montalvo-Rangel*, No. SA-10-CR-64, 2010 WL 1484708, at \*3 (W.D. Tex. Apr. 13, 2010), *aff’d*, 437 F. App’x 316 (5th Cir. 2011) (relying on the NAS Report to argue that expert testimony of a latent print examiner was unreliable); *see also* *McMurtrie*, *supra* note 3, at 287–88 (proposing defendants can use the NAS Report to “refute or preclude [the fingerprint

the NAS Report, but responded to its criticisms in different ways. While some courts simply pay “lip service” to the Report, others have grappled with its methods and more carefully considered its findings.<sup>14</sup> Overall, however, courts continue to strongly favor the admission of fingerprint identification evidence.<sup>15</sup> In doing so, most courts rely on the adversarial process (i.e., defense counsel’s ability to weed out frailties in such evidence via cross-examination) to “resolve and neutralize” any post-NAS Report concerns about the reliability of fingerprint evidence.<sup>16</sup>

By focusing on the role of defense counsel (and the adversarial system) as a basis for rejecting such appeals, the courts have been drawing upon an “instrumental” value of finality; namely, incentivizing defense counsel to prevent errors at trial level.<sup>17</sup> As Professor Erin Murphy states, “[a]s currently configured, our [criminal justice] system . . . heavily depends upon the skill of counsel and in-court confrontation rather than out-of-court oversight and structural reform . . . .”<sup>18</sup> The term “finality” represents the conclusion that a certain set of interests are best served by limiting review.<sup>19</sup> In addition to incentivizing defense counsel, “[t]hese interests include ensuring respect for criminal judgments, conserving state resources, furthering the efficiency and deterrent and educational functions of criminal law, satisfying the human need for closure, . . . and preventing a flood of frivolous claims from masking the fewer, credible ones.”<sup>20</sup> This judicial trend has continued post-2011.

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expert’s] claims of infallibility” and “educate the judge and jury”).

14. *Collision of Law and Science*, *supra* note 9, at 276–77.

15. *See id.*

16. *Id.* at 277.

17. *See* Andrew Chongseh Kim, *Beyond Finality: How Making Criminal Judgments Less Final Can Further the “Interests of Finality,”* 2013 UTAH L. REV. 561, 563 (2013).

18. Erin Murphy, *The Mismatch Between Twenty-First-Century Forensic Evidence and Our Antiquated Criminal Justice System*, 87 S. CAL. L. REV. 633, 672 (2014).

19. *See* Kim, *supra* note 17, at 568.

20. Sarah Lucy Cooper, *Judicial Responses to Challenges to Firearms Identification Evidence: A Need for New Perspectives on Finality*, 31 T.M. COOLEY L. REV. 457, 459–60 (2014) [hereinafter *Challenges to Firearms Identification*]; *see* Paul M. Bator, *Finality in Criminal Law and Federal Habeas Corpus for State Prisoners*, 76 HARV. L. REV. 441, 452 (1963); Henry J. Friendly, *Is Innocence Irrelevant? Collateral Attack on Criminal Judgments*, 38 U. CHI. L. REV. 142, 159 (1970); Kim, *supra* note 17, at 563; Sperling, *supra* note 8, at 144.

This article presents a cohort of cases that demonstrate this pattern in judicial decision-making and highlights the implications of relying on this finality interest to remedy the problems associated with forensic identification evidence.<sup>21</sup> Part II describes the process of friction ridge analysis, the NAS Report's findings about friction ridge analysis, and some recent efforts to improve the discipline.<sup>22</sup> Part III outlines relevant admissibility frameworks and judicial responses to challenges to fingerprint evidence between 2009 and 2014, illustrating the influence of finality on judicial decision making in these cases.<sup>23</sup> Part IV discusses the implications of relying on finality to rationalize such decisions.<sup>24</sup> It suggests that, in relying on the role of defense counsel and the adversarial system to rationalize their decisions, courts are overlooking the limitations of the adversarial system, specifically the difficulties lawyers have in engaging with scientific evidence and the problems encountered by their audience (i.e., the jury) when receiving such evidence.<sup>25</sup> As Professor David Faigman stated, legal consumers of science (including lawyers, judges, jurors, and other legal personnel) "often have little understanding of the product they are buying."<sup>26</sup> Part V concludes that the courts should consider taking new perspectives on finality in such cases, and give more meaningful consideration to the issues that arise when law consumes science in this way.<sup>27</sup>

## II. FRICTION RIDGE ANALYSIS: THE 2009 NATIONAL ACADEMY OF SCIENCES REPORT AND RECENT RESEARCH EFFORTS

When a person's hand (or foot) touches a particular surface, the ridges on their skin leave a printed impression on that surface.<sup>28</sup> Friction ridge analysis, which is the practice of "matching" a latent

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21. Notably, a similar pattern is identifiable in firearms identification evidence cases. See *Challenges to Firearms Identification*, *supra* note 20, at 478.

22. See *infra* Part II.

23. See *infra* Part III.

24. See *infra* Part IV.

25. See *infra* Part IV.

26. DAVID L. FAIGMAN, *LEGAL ALCHEMY: THE USE AND MISUSE OF SCIENCE IN THE LAW* 53 (1999).

27. See *infra* Part V.

28. *Commonwealth v. Patterson*, 840 N.E.2d 12, 15 (Mass. 2005) ("Fingerprints are left by the deposit of oil on contact between a surface and the friction ridges of a finger.").

print found at a crime scene to an inked suspect print, has gained universal acceptance.<sup>29</sup> As noted above, proponents of fingerprint identification make three fundamental claims: fingerprints are unique and unchanging;<sup>30</sup> fingerprint examiners can identify the exact donor of a crime scene print;<sup>31</sup> and such an identification is infallible.<sup>32</sup> The standard method of fingerprint identification employed by fingerprint examiners in America is the four-stage Analysis-Comparison-Evaluation-Verification (ACE-V) method.<sup>33</sup> An examiner must have a latent print and a suspect print to conduct an ACE-V examination.<sup>34</sup> The analysis phase involves a “qualitative and quantitative” evaluation of a fingerprint’s friction ridges at three levels of detail: (1) flow, or direction of the ridges; (2) an examination of each individual ridge’s unique characteristics; and (3) a close examination of the pores of the ridges.<sup>35</sup> An examiner first analyzes the latent print, then the suspect print.<sup>36</sup> The comparison phase requires analysis of the latent and suspect prints to determine if they match.<sup>37</sup> The examiner will study the “friction ridge detail to determine if the details match in similarity, sequence, and spatial relationship.”<sup>38</sup> There is no specific formula examiners use to determine whether there is a match.<sup>39</sup>

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29. Saks, *supra* note 1, at 1097, 1101, 1110.

30. Benedict, *supra* note 2, at 527.

31. McMurtrie, *supra* note 3, at 269.

32. *Id.* at 273–74.

33. *See Patterson*, 840 N.E.2d at 14 n.2.

34. *See McMurtrie*, *supra* note 3, at 270–71.

35. *United States v. Aman*, 748 F. Supp. 2d 531, 539 (2010) (“The first level of detail can be used to exclude, but not to identify, a print, while a combination of the second and third levels of detail may allow for either identification or exclusion.”).

36. *Id.* (“If either the latent or the [suspect] print is unsuitable for examination, the analysis ends.”).

37. *Id.*

38. *Id.* (“[D]ifferences in the fingerprints do not necessarily end the analysis; rather, the examiner must determine whether the dissimilarity is explainable given pressure differences, surface texture, print medium (e.g., ink, sweat, or blood), and other expected variations.”).

39. *Id.* (“[N]o set number of similarities—sometimes known as ‘points’—indicates a match, since it is both the quantity and quality of similarities that allow for identification. Likewise, the number of explained dissimilarities—that is, dissimilarities believed to be the result of expected variations—is not dispositive either for or against finding a match.”).

The third phase in the ACE-V method—evaluation—requires the examiner to form a conclusion about the prints. The examiner can conclude that the prints are a match (known as “individualization” or “identification”), that they are not a match (known as “exclusion”), or that the result is inconclusive. Both the comparison and evaluation phases involve the exercise of judgment by an examiner based on that examiner’s training and experience.<sup>40</sup>

In the last stage of the ACE-V method—verification—a second examiner analyzes the same latent and suspect prints in an effort to verify the first examiner’s conclusion.<sup>41</sup>

The NAS Report acknowledged that friction ridge analysis has long “served as a valuable tool, both to identify the guilty and to exclude the innocent,”<sup>42</sup> and gave some support to the discipline’s ability to engage in individualization.<sup>43</sup> “Because of the amount of detail available in friction ridges,” the NAS opined, “it seems plausible that a careful comparison of two impressions can accurately discern whether or not they had a common source.”<sup>44</sup> The Report agreed that “[s]ome scientific evidence supports the presumption that friction ridge patterns are unique to each person and persist unchanged throughout a lifetime.”<sup>45</sup> However, the Report also found that the discipline was not “properly underpin[ned].”<sup>46</sup> The NAS Report’s criticism spanned four areas. First, ACE-V “is not specific enough to qualify as a validated method” because it “does not guard against bias; is too broad to ensure repeatability and transparency; and does not guarantee that two analysts following it will obtain the same results.”<sup>47</sup> Thus, an examiner is not “proceeding in a scientific manner or producing reliable results” by simply applying ACE-V.<sup>48</sup> Second, examiners need to better document their analysis.<sup>49</sup> Third, claims of a zero

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40. *Id.*

41. *Id.* Interestingly, the second examiner knows the first examiner’s results.  
*Id.*

42. NAS Report, *supra* note 9, at 142.

43. *See id.* at 136.

44. *Id.* at 142.

45. *Id.* at 143–44.

46. *Id.* at 144.

47. *Id.* at 142.

48. *Id.*

49. *Id.* at 143 (“Better documentation is needed of each step in the ACE-V



error-rate are clearly “unrealistic.”<sup>50</sup> Fourth, more research is needed into ridge patterns and distribution, discriminating values, and items “that affect the quality of latent prints.”<sup>51</sup> However, it should be noted that the NAS Report itself, and in particular its assessment of friction ridge analysis, has been criticized.<sup>52</sup>

Courts have subsequently acknowledged that the forensic science community has started to take steps to respond to the findings of the NAS Report.<sup>53</sup> More recently, these efforts have continued. For instance, in relation to friction ridge analysis, in 2012, “a large multidisciplinary collective—the Expert Working Group on Human Factors in Latent Print Analysis . . . was

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process or its equivalent. At the very least, sufficient documentation is needed to reconstruct the analysis, if necessary.”).

50. *Id.*

51. *Id.* at 144–45 (acknowledging that some research has recently begun regarding “ridge flow and crease pattern distribution on the hands and feet” and “the discriminating value of the various ridge formations and clusters of ridge formations”).

52. *See* Plumtree, *supra* note 13, at 658.

The NAS Committee did voluntarily undertake a difficult mission. The report addressed various diverse forensic disciplines in conjunction with heretofore unaddressed aspects of forensic science. A majority of the suggestions offered, such as universal examiner certification, laboratory accreditation, universal minimum training, and uniform terminology will have a positive effect on forensic science in general, even if not fully implemented. Considering the scope of the report, it is not surprising that there would be some problematic areas. The fingerprint community is not the only discipline that has challenged the findings in the NAS Report. Possibly in the near future, the National Academy of Sciences will issue a follow-up report with corrections, as was done following the National Academy of Sciences’ first report on DNA. It is unfortunate that the NAS Report contains flaws concerning some areas of fingerprint analyses, but this is a limitation that must be considered. To properly serve justice, the weight given the National Academy of Sciences’ Report, Strengthening Forensic Science in the United States: A Path Forward, will have to be carefully calibrated to the specific issue.

*Id.* at 658–60 (citations omitted).

53. For instance, in *United States v. Love*, a U.S. District Court in California recognized that the NAS Report criticized some aspects of fingerprint analysis, but denied Love’s challenge to the admission of fingerprint evidence against him. No. 10cr2418-MMM, 2011 WL 2173644 (S.D. Cal. June 1, 2011). The court based its conclusion, in part, on precedent and on evidence that “the forensic science community generally . . . ha[s] begun to take appropriate steps to respond to [the] criticism [contained in the NAS Report].” *Id.* at \*8.

sponsored by the National Institute of Standards and Technology and the National Institute of Justice to investigate human factors in latent fingerprint identification.”<sup>54</sup> Recommendations of the working group are as follows:

The authors recommended that examiners should be familiar with human factors issues such as fatigue, bias, cognitive and perceptual influences, and not state that errors are inherently impossible or that a method inherently has a zero error rate. They recommend that management foster a culture in which it is understood that some human error is inevitable and that a comprehensive testing program of competency and proficiency should be developed and implemented. Speaking generally, and taking the lead from medical and aviation research, the authors advocate that fingerprint identification would benefit from the human factors research and systems approaches to improve quality and productivity, and reduce the likelihood and consequences of human error.<sup>55</sup>

As a result of such reports and scholarly criticism, the working group noted that “research into fingerprint identification is well underway.”<sup>56</sup> For example, “[r]esearchers have investigated the effect of contextual bias on fingerprint examiners, the special abilities and vulnerabilities of fingerprint examiners, the psychophysics of fingerprint identification, the effect of technology, and statistical models of fingerprint identification.”<sup>57</sup> Studies have also “been conducted to directly address the matching accuracy and expertise of examiners.”<sup>58</sup>

At a national level, efforts have been made to make more holistic improvements to forensic science. For instance, in January 2014, the U.S. Department of Justice and the National Institute of Standards and Technology appointed members to the newly created National Commission on Forensic Science.<sup>59</sup> Members of

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54. Matthew B. Thompson, Jason M. Tangen & Duncan J. McCarthy, *Human Matching Performance of Genuine Crime Scene Latent Fingerprints*, 38 L. & HUM. BEHAV. 84, 85 (2014).

55. *Id.*

56. *Id.*

57. *Id.* (citation omitted).

58. *Id.*

59. Press Release, U.S. Dep’t of Justice, U.S. Departments of Justice and Commerce Name Experts to First-Ever National Commission on Forensic Science

the Commission are charged with collaborating “to improve the practice of forensic science by developing guidance concerning the intersections between forensic science and the criminal justice system.”<sup>60</sup> The Commission also “develop[s] policy recommendations for the U.S. Attorney General, including uniform codes for professional responsibility and requirements for formal training and certification.”<sup>61</sup> The Commission has now started its work and created sub-committees working on issues relating to accreditation, the impact of human factors, testimony and reporting, interim solutions, death investigations, wider research, and training in science and law.<sup>62</sup> In February 2014, a bill for the Forensic Science and Standards Act of 2014 was introduced in the Senate.<sup>63</sup> The Act was aimed at improving forensic science by encouraging research, adopting standards, and creating accreditation requirements.<sup>64</sup> It was reported by the Committee on April 9, 2014, but it later died in Congress.<sup>65</sup>

Evidently, the NAS Report spurred a series of actions in scientific, political, policy, and academic spheres, all of which are aimed at improving forensic science (and, in particular, the legal system’s use of it). The Report was also billed as a “blockbuster” report that would overhaul “the legal landscape regarding forensic evidence.”<sup>66</sup> Therefore, as expected, defendants started to use the NAS Report to bolster their appeals and other motions, arguing the Report’s findings supported their arguments that fingerprint identification evidence was unreliable and should not have been (or should not be) admitted against them. However, the courts have largely rejected such challenges, relying on the adversary process.<sup>67</sup> Part III examines this pattern in judicial decision making between 2009 and 2014, and it illustrates the influence of finality on judicial rationales.

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(Jan. 10, 2014).

60. *Id.*

61. *Id.*

62. *See Subcommittees*, DEP’T JUSTICE, <http://www.justice.gov/ncfs/subcommittees> (last updated Oct. 27, 2015).

63. Forensic Science and Standards Act of 2014, S. 2022, 113th Cong. (2014).

64. *Id.*

65. *See S. 2022 (113th): Forensic Science and Standards Act of 2014*, GOVTRACK.US <https://www.govtrack.us/congress/bills/113/s2022> (last visited Mar. 17, 2016).

66. McMurtrie, *supra* note 3, at 267.

67. *Collision of Law and Science*, *supra* note 9, at 277.

### III. JUDICIAL RESPONSES TO CHALLENGES TO FINGERPRINT IDENTIFICATION EVIDENCE BETWEEN 2009 AND 2014 AND THE INFLUENCE OF FINALITY

Fingerprint identification evidence has been admitted into U.S. courtrooms for over a century.<sup>68</sup> In that time, the discipline has satisfied both of the leading standards for the admissibility of expert evidence, namely the “general acceptance” standard set out in *Frye v. United States*<sup>69</sup> in 1923 and the “flexible, factor-based approach”<sup>70</sup> detailed in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, in 1993.<sup>71</sup> At present, *Daubert* generally governs the admissibility of scientific expert evidence in the United States.<sup>72</sup> *Daubert* charges judges to examine the principles and methodology of proffered scientific evidence, not just whether its conclusions are generally accepted in the scientific community. In *Daubert*, the U.S. Supreme Court listed five factors that courts should consider when analyzing the reliability of expert testimony: (1) “whether a method can be

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68. Bonnie Lanigan, *Firearms Identification: The Need for a Critical Approach to, and Possible Guidelines for, the Admissibility of “Ballistics” Evidence*, 17 SUFFOLK J. TRIAL & APP. ADVOC. 54, 57 (2012).

69. *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir. 1923).

70. *Collision of Law and Science*, *supra* note 9, at 242.

71. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 593–94 (1993); *see also Collision of Law and Science*, *supra* note 9, at 242 n.47. This author has previously explained that

[I]ower courts struggled to interpret *Daubert*, causing the Supreme Court to clarify its ruling in two subsequent cases. In [*General Electric Co. v. Joiner*], the Court determined that an appellate court, reviewing a trial court’s decision to admit or exclude expert testimony under *Daubert* should apply the “abuse of discretion” standard. In so holding, the Supreme Court limited the role of appellate courts in deciding whether to admit or exclude expert evidence, and emphasized that the main “gate-keeping” power remained with the trial judge. In *Kumho Tire v. Carmichael*, the Justices held that *Daubert* applied to all expert testimony, not just scientific testimony. This silenced claims that *Daubert* did not apply to the soft sciences. The Justices also held that trial courts may consider the five *Daubert* factors to the extent they are relevant. In other words, the Supreme Court did not endorse strict application of the *Daubert* factors.

*Id.* (citations omitted).

72. Some states continue to apply the *Frye* standard, or, indeed their own specific standard. *See, e.g., Goeb v. Tharaldson*, 615 N.W.2d 800, 814 (Minn. 2000) (noting that Minnesota has adopted a dual *Frye-Mack* standard and explicitly rejected the *Daubert* standard).

(and has been) tested;” (2) “the known or potential rate of error;” (3) “whether the theory or technique has been subjected to peer review;” (4) whether there are “standards controlling the technique’s operation;” and (5) the “general acceptance” of the method within the relevant community.<sup>73</sup>

Prior to the publication of the NAS Report, a number of courts had—to differing degrees and by using different approaches to *Daubert*—expressed some concern about the practice of fingerprint identification.<sup>74</sup> The following cases demonstrate how courts considered the NAS Report in the three years after its publication and showcase how finality influenced judicial decision-making.

#### A. *Judicial Responses Between 2009 and 2011*

In December 2009, Brian Rose challenged the admissibility of fingerprint evidence that allegedly linked him to a fatal carjacking. In *United States v. Rose*, a Maryland court ruled that precedent—the general acceptance of the ACE-V method in the fingerprint scientific community—and the lack of evidence to contradict the conclusion that misidentifications were extremely rare favored admission.<sup>75</sup> The court acknowledged the NAS Report’s use of a study that found there was no “available scientific evidence of the validity of the ACE-V method.”<sup>76</sup> However, the court emphasized that the Report “did not conclude that fingerprint evidence was unreliable such as to render it inadmissible,”<sup>77</sup> and its architects did not intend to answer “whether forensic evidence in a particular case is admissible under applicable law.”<sup>78</sup> In so holding, the court emphasized the U.S. Supreme Court’s view in *Daubert* that “[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof” are the

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73. *Daubert*, 509 U.S. at 593–95.

74. See *United States v. Mitchell*, 365 F.3d 215, 235–46 (3d Cir. 2004); *United States v. Crisp*, 324 F.3d 261, 268–70 (4th Cir. 2003); *United States v. Llera Plaza*, 188 F. Supp. 2d 549, 560–76 (E.D. Pa. 2002), *vacated*, 179 F. Supp. 2d 492 (E.D. Pa. 2002); *Commonwealth v. Patterson*, 840 N.E.2d 12, 20–22 (Mass. 2005), *overruled on other grounds by Commonwealth v. Britt*, 987 N.E.2d 558 (Mass. 2013); *Collision of Law and Science*, *supra* note 9, at 248.

75. *United States v. Rose*, 672 F. Supp. 2d 723, 725–26 (D. Md. 2009).

76. *Id.* at 725.

77. *Id.*

78. *Id.* (citations omitted).

“appropriate methods of attacking perceived flaws in admissible scientific or technical evidence.”<sup>79</sup>

The Supreme Court of Massachusetts considered the NAS Report in more detail in *Commonwealth v. Gambora* in 2010.<sup>80</sup> After being convicted of murder and related offenses, Gambora used the NAS Report to challenge evidence that “matched” his fingerprints to latent prints found on a door. The court acknowledged, in relative depth, the concerns raised about the reliability of fingerprint identification in the NAS Report.<sup>81</sup> These included the subjective and impure nature of ACE-V,<sup>82</sup> the lack of a quantifiable error rate,<sup>83</sup> and the need for more extensive research to underpin the discipline.<sup>84</sup> However, the court emphasized that the NAS Report had not argued for, and did not result in, the wholesale exclusion of fingerprint evidence.<sup>85</sup> With regards to cross-examination, the court recognized some limitation on its impact:

While we normally leave the humbling of inflated opinions to cross-examination, there is a danger that the mystique of fingerprint identification, which has had a captivating hold on the criminal justice system and society at large for more than one hundred years, is such that cross-examination may not be enough to rectify the effect of a fingerprint expert’s use of such terms as “individualized,” “absolute,” and “match” when testifying, as opposed to presenting the testimony as his or her “opinion” that the latent fingerprints are the defendant’s.<sup>86</sup>

However, commenting that defense counsel had done “exemplary” work, the court admitted the evidence.<sup>87</sup> Notably, although the *Gambora* court did not overlook the limitations of

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79. *Id.* at 724–25 (citing *United States v. Crisp*, 324 F.3d 264, 268–70 (4th Cir. 2003)).

80. *Commonwealth v. Gambora*, 933 N.E.2d 50 (2010).

81. *Id.* at 58–60.

82. *Id.* at 58–59.

83. *Id.* at 60.

84. *Id.* at 58 n.11.

85. *Id.* at 58.

86. *Id.* at 66.

87. *Id.* (Spina, J., concurring). It is important to note that the *Gambora* decision was somewhat directed by the fact that the defendant testified at trial that he “put his hand on the door in question.” *Id.* at 61. Other evidence also connected the defendant to the scene of the robbery and homicide. *Id.*

cross-examination, it still overlooked the difficulties a jury might have in digesting such evidence. As discussed later,<sup>88</sup> there is ample evidence that jurors are easily seduced by experts, and as a consequence, pay little attention to the veracity of the discipline they are tasked with judging.<sup>89</sup> In the context of fingerprint identification, for example, studies have found that a vast majority of jurors agree that fingerprint identification is a “science”<sup>90</sup> and that fingerprints are the most reliable means of identification.<sup>91</sup>

Moreover, despite being a typical ruling, *Gambora* made two important impacts. First, it highlighted that some of the NAS Report’s conclusions are confusing. The court stated,

As our discussion of the NAS Report reflects, there is tension in the report between its assessments that, on the one hand, “it seems plausible that a careful comparison of two impressions can accurately discern whether or not they had a common source,” but that, on the other, “merely following the steps of ACE-V does not imply that one is proceeding in a scientific manner or producing reliable results.”<sup>92</sup>

The court felt unable to resolve this tension in *Gambora*.<sup>93</sup> Second, *Gambora* represents the first restriction on fingerprint identification evidence as a direct consequence of the NAS Report. The court said,

[B]ased on the NAS Report, we can say this much at the present time: Testimony to the effect that a latent print matches, or is “individualized” to, a known print, if it is to be offered, should be presented as an opinion, not a fact, and opinions expressing absolute certainty about, or the

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88. See *infra* Part IV.

89. See Simon A. Cole, *Grandfathering Evidence: Fingerprint Admissibility Rulings from Jennings to Llera Plaza and Back Again*, 41 AM. CRIM. L. REV. 1189, 1199 (2004) (describing how the nature of fingerprint analysis may be taken as absolute because of the unique nature of fingerprints).

90. Charles Illsley, Address at the International Symposium on Latent Prints (1987) (finding that 93% of jurors agree that fingerprint identification is a science, and only 2% disagree).

91. *Id.* at 19 (finding that 85% of potential jurors agree that “fingerprints are the most reliable means of identifying a person,” and only 8% disagree).

92. *Gambora*, 933 N.E.2d at 61 n.22 (citing NAS Report, *supra* note 9, at 142).

93. *Id.*

infallibility of, an “individualization” of a print should be avoided.<sup>94</sup>

In *United States v. Aman*, Aman moved to exclude fingerprint evidence that allegedly linked him to an arson fire.<sup>95</sup> The *Aman* court opined that “[t]he absence of a known error rate, the lack of population studies, and the involvement of examiner judgment all raise important questions about the rigorousness of friction ridge analysis.”<sup>96</sup> The court acknowledged the NAS Report’s concern that the discipline had not been subjected to population studies to demonstrate its precision.<sup>97</sup> With regards to error rate, the court noted, “[W]hile fingerprint experts sometimes use terms like ‘absolute’ and ‘positive’ to describe the confidence of their matches, the [NAS Report] has recognized that a zero-percent error rate is ‘not scientifically plausible.’”<sup>98</sup> The court agreed that further testing and study would enhance the precision and reviewability of fingerprint examiners’ work.<sup>99</sup> Still, relying on *Crisp*, the court held that Aman’s challenge was appropriate for cross-examination,<sup>100</sup> and not grounds for exclusion.<sup>101</sup>

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94. *Id.* However, it should be noted that the court also concluded that “nothing in this [*Gambora*] opinion should be read to suggest that the existence of the NAS Report alone will require *Daubert-Lanigan* hearings as to the general reliability of expert opinions concerning fingerprint identifications.” *Id.*

95. *United States v. Aman*, 748 F. Supp. 2d 531, 532 (E.D. Va. 2010).

96. *Id.* at 541.

97. *Id.* at 540 (“[S]tudies on friction ridge analysis to date have not yielded accurate population statistics. In other words, while some may assert that no two fingerprints are alike, the proposition is not easily susceptible to scientific validation.”).

98. *Id.* (citing NAS Report, *supra* note 9, at 142).

99. *Id.* at 541.

100. *Id.* at 534 (“[T]he *Daubert* inquiry focuses on the reliability of the expert’s principles and methodology, rather than the conclusions generated.”).

101. The *Aman* court relied on the *Crisp* court’s view that the district court heard testimony to the effect that the expert community has consistently vouched for the reliability of the fingerprinting identification technique over the course of decades. . . . The district court also heard evidence from which it was entitled to find the existence of professional standards controlling the technique’s operation. Those standards provide adequate assurance of consistency among fingerprint analyses. Finally, the court heard testimony that fingerprint identification has an exceedingly low rate of error, and the court was likewise within its discretion in crediting that evidence. *United States v. Crisp*, 324 F.3d 261, 269 (4th Cir. 2003).



In 2011, Donny Love challenged the admission of fingerprint evidence that allegedly connected him to the 2008 bombing of a federal courthouse in San Diego.<sup>102</sup> In that challenge, a U.S. District Court in California recognized that the NAS Report criticized some aspects of fingerprint analysis,<sup>103</sup> but denied Love's motion to exclude such evidence against him.<sup>104</sup> In so holding, the court used yet a different overall approach to *Daubert*. The court based its conclusion, in part, on precedent and on evidence that "the forensic science community generally . . . ha[s] begun to take appropriate steps to respond to that criticism [contained in the NAS Report]."<sup>105</sup> With regard to error rate, the court cited a "May 2011 study of the performance of 169 fingerprint examiners[, which] revealed a total of six false positives among 4,083 comparisons of non-matching fingerprints for 'an overall false positive rate of 0.1%.'"<sup>106</sup> With regard to controlling standards, "the court acknowledge[d] that the standards used in fingerprint analysis '[were] insubstantial'" compared to those employed by scientific disciplines.<sup>107</sup> The *Love* court found that the procedural nature of the ACE-V method—in this case, in the context of the FBI—and the stringent qualification process for FBI examiners favored admission.<sup>108</sup> The *Love* court departed from precedent in its consideration of "general acceptance," finding the factors only "at least weakly" supported admission.<sup>109</sup> The court found that Love's argument that the "NAS [R]eport's criticisms of latent fingerprint analysis in general and the ACE-V methodology in particular demonstrate that friction ridge analysis is not accepted in the relevant scientific community" contained a "kernel of truth."<sup>110</sup> Thus, the court agreed that the NAS Report "demonstrate[d] some hesitancy in accepting latent fingerprint analysis on the part of the broader scientific community."<sup>111</sup> However the court did not reject

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102. *United States v. Love*, No. 10cr2418-MMM, 2011 WL 2173644 (S.D. Cal. June 1, 2011). Notably this is not a post-conviction case, but it is included as a helpful illustration of post-NAS judicial decision making in this area.

103. *Id.* at \*7.

104. *Id.* at \*10.

105. *Id.* at \*8.

106. *Id.* at \*5.

107. *Id.* at \*6.

108. *Id.* at \*6–7.

109. *Id.* at \*7.

110. *Id.*

111. *Id.*

“general acceptance” entirely because “forensic science and law enforcement communities strongly support the use of friction ridge analysis.”<sup>112</sup> The court concluded, “Friction ridge analysis is not foolproof, but it is also far removed from the types of ‘junk science’ that must be excluded under . . . Daubert.”<sup>113</sup> Notably, this is contrary to one scholar’s view that the “‘gold standard’ in identification [of fingerprinting] now appears to be more akin to . . . ‘fool’s gold.’”<sup>114</sup> Cementing its decision, the *Love* court underscored that the state’s expert “will be subject to cross-examination about her background, methods, analysis, conclusions, and latent fingerprint analysis generally.”<sup>115</sup>

In *Pettus v. United States*, the appellant used the NAS Report to challenge forensic evidence that his handwriting matched the writing on a note found on the victim’s body.<sup>116</sup> This is relevant to fingerprint identification because Pettus aimed his challenge at the ACE-V method, as this is the methodology the FBI also employs in handwriting analysis.<sup>117</sup> In rejecting Pettus’ claim, the court stated:

As in all such cases, however, it is important . . . that appellant was not denied a second opportunity to challenge FBI examiner Maldonado’s expert opinion, this time before the jury. Rejecting the view of those “overly pessimistic about the capabilities of the jury and of the adversary system generally,” the Supreme Court has reminded us that “[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.” As the trial judge said in concluding his exemplary analysis here: “I fully expect the defense to conduct a thorough cross-examination that will expose any and all inadequacies and points of unreliability of the ACE-V method as a general matter, as well as the . . .

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112. *Id.*

113. *Id.* at \*8.

114. Brooke G. Malcom, Comment, *Convictions Predicated on DNA Evidence Alone: How Reliable Evidence Became Infallible*, 38 CUMB. L. REV. 313, 328 (2008).

115. *Love*, 2011 WL 2173644, at \*9.

116. *Pettus v. United States*, 37 A.3d 213, 226–27 (D.C. 2012). This author did not consider this case in her 2013 article. See *Collision of Law and Science*, *supra* note 9.

117. *Pettus*, 37 A.3d at 227.

inadequacies and points of . . . unreliability in the application of that method in this case.”<sup>118</sup>

The above cases<sup>119</sup> demonstrated that courts generally acknowledge the NAS Report; however, they engage with and

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118. *Id.* at 228–29 (quoting *Daubert v. United States*, 509 U.S. 579, 596 (1993)).

119. There were a few other post-NAS Report cases that very briefly acknowledge the Report between 2009 and 2011. In August 2011, after being convicted of first degree murder, Edward Mitchell challenged the fingerprint evidence against him. *People v. Mitchell*, 955 N.E.2d 1180, 1181 (Ill. App. Ct. 2011). In *Mitchell*, the Illinois Appellate Court found that (1) the trial court did not err by admitting expert testimony that failed to account for eight of the thirteen points allegedly found between defendant’s print and the suspect print; and (2) the trial court did not err by failing to conduct an admissibility hearing concerning the methodology used by the relevant fingerprint expert. *Id.* at 1190. The court made no substantive mention of the NAS Report’s findings, but in his dissent, Judge Robert Gordon appeared to follow the NAS Report’s findings in that he berated the experts involved for not making notes of their processes and conclusions. *Id.* (Gordon, J., dissenting). In *United States v. Gutierrez-Castro*, the defendant came before a U.S. District Court in New Mexico. 805 F. Supp. 2d 1218, 1218 (D.N.M. 2011). In that case, Castro was accused with reentry of a removed alien, and the state wanted to introduce the testimony of James McNutt. *Id.* at 1222. McNutt would testify that suspect prints belonged to Castro. *Id.* Castro used the NAS Report in a very narrow sense. *See id.* at 1228. Castro argued that, “because there are no standardized methods of accreditation or the necessary training to reduce errors, and because McNutt has not taken a class since 2004, he is not qualified to offer expert testimony about fingerprint analysis.” *Id.* Without engaging the NAS Report, the court rejected Castro’s argument, seemingly siding with the state’s argument that McNutt had undergone demanding training with regular proficiency tests. *Id.* at 1228–29. Like other courts, the *Castro* court was not deterred by the fact that most proficiency tests do not reflect real-life conditions. The court agreed that the error rate, controlling standards, and general acceptance of fingerprint identification favored admission. *Id.* at 1232. Like in *Love*, the court found that the testing of the discipline was only “somewhat in favor of admissibility.” *Id.* at 1231. It also found that “peer review” was not in favor of admissibility. *Id.* The court’s overall conclusion, however, was qualified. The court gave permission for McNutt to testify, but would *not* allow (1) the state to “offer McNutt as an expert witness in the jury’s presence;” (2) the trial court to “certify McNutt as an expert witness in the jury’s presence;” or (3) “the jury instructions . . . [to] refer to McNutt as an expert witness.” *Id.* at 1235. In December 2011, in *United States v. Watkins*, 450 Fed. App’x 511 (6th Cir. 2011), Eric Watkins challenged the district court’s decision to admit fingerprint evidence that linked him to various crimes. Specifically, Watkins challenged the state’s expert who claimed that when ACE-V “is used properly by a competent examiner, the error rate for identification is zero.” *Id.* at 513. In support, Watkins cited the NAS Report’s conclusion that such claims were unrealistic. *Id.* at 515. The Sixth Circuit Court of Appeals rejected Watkins’ argument on two grounds. *Id.* First, the court

respond to the NAS Report's criticisms of fingerprint identification to different degrees.<sup>120</sup> In all of these cases, however, judges have underscored the role of defense counsel and the adversarial system as a mechanism for weeding out frailties in such evidence. In the 2013 article, *The Collision of Law and Science: American Court Responses to Developments in Forensic Science*, involving challenges to fingerprint identification evidence decided between 2004 and 2011, this author concluded that "[o]verall, post-NAS Report courts have . . . relied on precedent and the adversary process to resolve and neutralize their concerns about the reliability of fingerprint evidence in the light of the NAS Report."<sup>121</sup>

There was also evidence that pre-NAS Report courts had rationalized their decisions in the same way.<sup>122</sup> As such, the cohort

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said that it would not consider evidence, namely the NAS Report, which was not before the district court. *Id.* Second, the court reasoned that even "assuming *arguendo* that the ACE-V method is not error-free, the fact that the fingerprint examiner testified that it was 100% accurate does not by itself mean that the district court erred in determining that the ACE-V method was scientifically valid." *Id.* The court declined to hold that the allegedly mistaken error-rate testimony "negates the scientific validity of the ACE-V method given all the other factors that the district court was required to consider." *Id.* at 516.

120. See *Collision of Law and Science*, *supra* note 9, at 276–77.

121. *Id.* at 277. This author also concluded that

[p]ost-NAS Report courts have: (1) made decisions to restrict testimony directly as a result of the NAS Report; (2) been more critical of the ability of fingerprint evidence to satisfy *Daubert* than pre-NAS Report courts, . . . [but not denied] admission of fingerprint evidence because of the NAS Report's findings; (3) placed emphasis on the NAS Report's position that it did not intend to answer the question of whether forensic evidence in a particular case is admissible under applicable law; (4) responded favorably to attempts by the forensic community to fill the gaps identified by the NAS Report; [and] (5) highlighted areas of contradiction in the NAS Report's conclusions.

*Id.* at 276–77.

122. See, e.g., *United States v. Crisp*, 324 F.3d 261, 261 (4th Cir. 2003). Crisp had been convicted of a bank robbery based, in part, on expert testimony that his right palm had produced a print recovered from a confession note. *Id.* at 265. Crisp challenged the admission of the testimony under *Daubert*. *Id.* at 267. The majority rejected Crisp's claims. *Id.* at 267–70. It found that precedent favored admission; the principles underlying fingerprint identification bore the "imprimatur of a strong general acceptance," the discipline had adequate standards controlling its operation because "fingerprint analysts are held to a consistent 'points and characteristics' approach to identification," examiners undergo proficiency tests, and the state's expert testified that the discipline had an "essentially zero" error-rate. *Id.* at 268–69. The majority conceded that "further

of cases demonstrated that finality and in particular, the finality interest related to incentivizing defense counsel, significantly influenced judicial decision making in this area.

*B. Judicial Responses Between 2012 and 2014*

U.S. courts have continued to draw upon this value of finality between 2012 and 2014. The following cases demonstrate this.

In the 2012 case of *State v. Sheehan*, the court allowed an appellant to challenge fingerprint evidence.<sup>123</sup> This is rare and showcases how highly the courts value the adversarial process. In this case, Sheehan argued: (1) “the trial court abused its discretion when it failed to hold [an admissibility] hearing to determine whether to admit the [s]tate’s expert testimony that a palm print found at the scene matched Sheehan’s palm print;” and (2) the trial court erred in its exclusion of Sheehan’s expert’s testimony, as well as its limitation of “Sheehan’s cross-examination of the state’s experts.”<sup>124</sup> The appeals court agreed with the trial court’s admissibility decision but ruled that the trial court erred with regards to restricting cross-examination of the state’s expert.<sup>125</sup> The court stated, “In depriving a person of life or liberty, . . . due process [is] . . . [a] fair opportunity to submit evidence, examine and cross-examine witnesses.”<sup>126</sup> “Thus, the trial court’s legal determination that the [s]tate’s expert testimony was admissible did not allow the court to then impinge on the jury’s role as fact finder by excluding the evidence that Sheehan may have used to challenge the credibility and weight of the [s]tate’s expert testimony.”<sup>127</sup> Without appropriate justification, “exclusion of this kind of exculpatory evidence . . . deprives a defendant of the basic right to have the prosecutor’s case encounter and survive the crucible of meaningful adversarial testing.”<sup>128</sup> Sheehan was given a

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research . . . and the development of even more consistent professional standards is desirable,” but found “[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.” *Id.* at 269–70.

123. *State v. Sheehan*, 273 P.3d 417, 422–23 (Utah Ct. App. 2012).

124. *Id.* at 420.

125. *Id.*

126. *Id.* at 426 (quoting *Christiansen v. Harris*, 163 P.2d 314, 317 (Utah 1945)).

127. *Id.*

128. *Id.* at 427.

new trial.<sup>129</sup> By contrast, the vast majority of cases reject appeals of this nature and rely on the adversarial process to protect defendants.

In *United States v. Stone*, Stone moved to exclude expert testimony using the NAS Report.<sup>130</sup> He argued that the discipline did not satisfy *Daubert*.<sup>131</sup> In rejecting Stone's motion, the court found that "concerns about the risks of error such as false positive identifications go to the weight of the evidence and can be explored on cross-examination and/or through presentation of competing evidence," and that related issues were more appropriate for the jury.<sup>132</sup> Citing a D.C. District Court decision, the court agreed that,

[w]hen a principle is well-established, the questions are simply whether the expert properly applied the established scientific principle to the facts and whether the expert's credibility is compromised for reasons such as bias. These are matters that a jury usually is competent to evaluate after cross-examination and presentation of competing expert testimony.<sup>133</sup>

The court underscored its decision by stating, "The gatekeeper role must not supplant the adversary system or the role of the jury."<sup>134</sup>

In *Gee v. United States*, the defendant appealed his convictions for a variety of burglary-related offenses. He argued that the trial court had "improperly preclud[ed] the use and admission" of the NAS Report by his defense.<sup>135</sup> Defense counsel wished to cross-examine the government's fingerprint expert using the Report because part of the state's case was that Gee was the donor of prints found at the crime scene.<sup>136</sup> The appeals court ruled that the trial court did not abuse its discretion in declining to take judicial

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129. *Id.* at 430.

130. *United States v. Stone*, 848 F. Supp. 2d 714, 716 (E.D. Mich. 2012).

131. *Id.* at 716–17.

132. *Id.* at 719.

133. *Id.* (quoting *United States v. Cooper*, 91 F. Supp. 2d 79, 82 (D.D.C. 2000)).

134. *Id.* ("Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." (quoting *Daubert v. Merrell Dow Pharm. Inc.*, 509 U.S. 579, 596 (1993))).

135. *Gee v. United States*, 54 A.3d 1249, 1253 (D.C. 2012).

136. *Id.* at 1262.

notice of the friction ridge analysis discussion in the NAS Report as a learned treatise, concluding that “although appellant was not able to cite to or quote from the NAS Report, . . . questioning defense counsel pursued on cross-examination addressed the concerns raised in the Report.”<sup>137</sup> Defense counsel’s opportunity to conduct cross-examination, even without relevant literature, was sufficient to reject Gee’s claim, demonstrating the court’s view that the adversarial system—even without props—is sufficient to adequately highlight fragilities in forensic evidence.<sup>138</sup>

In *People v. Luna*, Luna appealed his first-degree murder conviction, arguing that the trial court should have excluded expert testimony that a latent print found on a napkin matched his palm print or that he should have been granted a *Frye* hearing because the controversy surrounding fingerprint identification demonstrated that the relevant scientific community did not “generally accept” the method used to match latent prints to known prints.<sup>139</sup> The appeals court acknowledged that the NAS Report and other literature included “direct criticisms to specific claims from latent print examiners,” however, the court concluded that the forum for airing such criticisms was cross-examination, stating, “Before the jury, the examining attorney ‘may expose shaky but admissible evidence by vigorous cross-examination or the presentation of contrary evidence.’”<sup>140</sup> Luna’s claims were rejected on the basis of defense counsel’s thorough examination of the state’s expert—especially regarding his ability to draw a conclusion as to the palm print—and also questionable reliability of latent print identification given past mistaken fingerprint identifications and the subjective nature of comparison.<sup>141</sup>

### C. *The Doctrine of Finality*

The cases detailed above all demonstrated the influence of finality on judicial decision making between 2009 and 2014. This influence is unsurprising. The obvious theoretical reason for why

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137. *Id.* at 1268.

138. *Id.*

139. *People v. Luna*, 989 N.E.2d 655, 659 (Ill. App. Ct. 2013), *appeal denied*, 996 N.E.2d 20 (Ill. 2013).

140. *Id.* (quoting *Donaldson v. Cent. Ill. Pub. Serv. Co.*, 767 N.E.2d 314, 330 (Ill. 2002)).

141. *Id.* at 674.

courts restrict any post-conviction review is finality. As Professor Sperling describes:

[P]ost-conviction procedures grow out of a strong tradition that values the finality of criminal convictions. Finality in the criminal law context means that the case is over, with no avenues remaining to challenge the conviction. Finality assigns guilt, puts the case to rest, and assures all parties that it will not be re-opened. Assuming that the criminal process is error-free, finality serves the ends of justice. Theoretically, once the system convicts the right person and assesses the right punishment, society is better off when prosecutors, law enforcement professionals, defense attorneys, and judges move on to other concerns.<sup>142</sup>

The concept of finality developed out of a “taxonomy”<sup>143</sup> detailed by Professor Paul Bator in his landmark 1963 article, *Finality in Criminal Law and Federal Habeas Corpus for State Prisoners*.<sup>144</sup> Professor Bator “laid the intellectual groundwork for the Supreme Court’s post-trial review jurisprudence and has been cited in hundreds of law review articles and court opinions.”<sup>145</sup> “Bator argued that the finality of criminal judgments serves important interests that are harmed by expansions of post-trial rights”<sup>146</sup> and proposed that, because we can never be 100 percent certain that no error of law or fact was made during trial (or appellate) proceedings, “we must impose an end to litigation at some point or else the case could conceivably go on *ad infinitum*.”<sup>147</sup> As Professor Sigmund Popko summarized:

Essentially, Bator argues we must acknowledge that human systems, because fallible humans design them, are themselves inherently fallible. Thus, we must “come to terms with the possibility of error inherent in any [human] process.” The best way to deal with this probability of human error, he continues, is to design our systems of justice with sufficient procedures and arrangements such that there exists an “acceptable

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142. CONTROVERSIES IN INNOCENCE CASES IN AMERICA, *supra* note 8, at 140.

143. Kim, *supra* note 17, at 568.

144. Bator, *supra* note 20, at 451–53.

145. Kim, *supra* note 17, at 568.

146. *Id.*

147. Sigmund G. Popko, *Putting Finality in Perspective: Collateral Review of Criminal Judgments in the DNA Era*, 1 L.J. SOC. JUST. 75, 76 (2011).



probability that justice will be done, that the facts found will be ‘true’ and the law applied ‘correct.’”<sup>148</sup>

Bator answered the question of why the criminal justice system needs finality by considering a series of “‘very real’ consequences of endless litigation.”<sup>149</sup> Decades later, criminal law is very familiar with the notion that finality is not a singular “consequence” but rather “shorthand for a collection of interests scholars assume are furthered by any restrictions on review.”<sup>150</sup> Finality assumes that providing defendants broader post-conviction rights harms these society-desired interests.<sup>151</sup> Consequently, when considering appeals, judges must balance society’s interests in finality against the rights of defendants.<sup>152</sup> Of course, finality does serve the interests of defendants as well, including their interests “not to be subject to repetitive trials, [and to] be able to move on in their lives” and not to be caught by repetitive state attempts at trying a case (and its luck) that “wear down the resources and stamina of [the] defendant.”<sup>153</sup> As it stands, however, the scales are not commonly tipped in favor of defendants, with finality often being used as a “trump card that presumptively outranks defendants’ interests.”<sup>154</sup> As Laurie Levenson stated, “The criminal justice system is obsessed with finality. While it professes to focus on obtaining fair and accurate results, the goal of finality is never far away.”<sup>155</sup>

Unsurprisingly, therefore, “courts have fully embraced the concept of finality,”<sup>156</sup> especially for criminal cases, with judges and scholars routinely asserting that restricting defendants’ post-conviction arsenal benefits society.<sup>157</sup> However, trial courts’ use of finality to rationalize decisions to allow the admission of fingerprint

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148. *Id.* (citing Bator, *supra* note 20, at 448–51).

149. *Id.* at 77.

150. Kim, *supra* note 17, at 568.

151. *Id.* at 573.

152. *Id.* at 566.

153. Laurie L. Levenson, *Searching for Injustice: The Challenge of Postconviction Discovery, Investigation, and Litigation*, 87 S. CAL. L. REV. 545, 552–53 (2014).

154. Kim, *supra* note 17, at 573 (citing Erwin Chemerinsky, *Thinking About Habeas Corpus*, 37 CASE W. RES. L. REV. 748, 772–75 (1987)); Popko, *supra* note 147, at 75.

155. Levenson, *supra* note 153, at 551.

156. Popko, *supra* note 147, at 77.

157. *Id.*

identification evidence arguably overlooks the limitations of the adversarial system.

Part IV, therefore, will discuss the implications of trial courts' reliance on finality to rationalize their decisions by considering the problems lawyers and jurors encounter when dealing with scientific evidence.

#### IV. THE IMPLICATIONS OF FINALITY: LAWYERS, JURORS, AND SCIENCE

Law needs science to help it understand “the world in which legal policy must operate.”<sup>158</sup> As Faigman stated, “Without [science], legal policy is literally blinded.”<sup>159</sup> On the face of it, science and law seemingly share a mutually convenient and somewhat placid relationship. Lawyers look to science for certainty in the face of difficult legal questions and decisions, and science seemingly responds with an answer.<sup>160</sup>

However, there is tension at the intersection of law and science. As one scholar stated, “No matter how organized and thorough scientific theories reach, they simply cannot foresee and solve every case or legal problem.”<sup>161</sup> Law and science clash culturally because of their different approaches to the world. A common way of describing their relationship is as follows: “Science progresses while law builds slowly on precedent. Science assumes that humankind is determined by some combination of nature and nurture, while law assumes that humankind can transcend these influences and exercise free will. Science is a cooperative endeavor, while most legal institutions operate on an adversary model.”<sup>162</sup>

With regard to law's use of science to shape the criminal process, one key issue is how non-scientists (i.e., most lawyers and jurors) handle scientific evidence. Unfortunately, there is ample evidence to suggest that neither cohort, generally, handles such evidence very well. These groups generally have “little understanding of the product they are buying.”<sup>163</sup> This lack of understanding is particularly problematic because courts reject

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158. FAIGMAN, *supra* note 26, at 26.

159. *Id.*

160. Alex R. Hess, *Book Review*, 9 J. HIGH TECH. L. 1, 1 (2009) (reviewing ROBIN FELDMAN, *THE ROLE OF SCIENCE IN LAW* (2009)).

161. *Id.*

162. FAIGMAN, *supra* note 26, at 56.

163. *Id.* at 53.

challenges to fingerprint identification evidence largely on the basis that the adversarial process (i.e., defense counsel) exposes issues with fingerprint identification evidence via cross-examination and jurors will make appropriate assessments about the accuracy and weight of such evidence.<sup>164</sup>

A. *Lawyers and Scientific Evidence*

Relying on the lawyer's ability to cross-examine is problematic for various reasons. First, lawyers are generally not scientists.<sup>165</sup> As Professor Faigman stated, "Not only do they not have training in the particular subject [of science], they have a more profound disability: most . . . lack the ability to judge whether proffered research is good science, bad science, or science at all."<sup>166</sup> Professor Fredric Lederer noted "lawyers generally lack significant scientific training. This educational deficiency often places lawyers at a disadvantage when confronted with scientific evidence . . . . [L]awyers . . . often fail to ask the right questions and uncritically accept scientific assertions."<sup>167</sup> The NAS Report recognized this was a significant issue too, stating over ten times that "lawyers and judges often have insufficient training and background in scientific methodology, and they often fail to fully comprehend the approaches employed by different forensic science disciplines and the reliability of forensic science evidence that is offered in trial."<sup>168</sup> Lawyers can overlook even the most accessible and vital information as a consequence of an inability to engage with science. Michael Saks gave the following example:

The [NAS] was asked by the FBI to evaluate voice spectrography used for the purpose of identifying suspects, and the Academy assembled a diverse and first-rate panel of experts to examine the scientific evidence on the question. The Academy published a detailed report of their conclusions, which the FBI promptly adverted to. Lawyers in trials around the country failed to

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164. See *supra* Sections III.A–B.

165. See *supra* Sections III.A–B.

166. FAIGMAN, *supra* note 26, at 54.

167. Fredric I. Lederer, *Scientific Evidence—An Introduction*, 25 WM. & MARY L. REV. 517, 519–20 (1984).

168. See Jessica D. Gabel, *Forensiphilia: Is Public Fascination with Forensic Science a Love Affair or Fatal Attraction?*, 36 NEW ENG. J. ON CRIM. & CIV. CONFINEMENT 233, 236 (2010) (citing NAS Report, *supra* note 9, at 27).

find and bring the report to the attention of judges, judges failed to find the report, and several courts which clearly knew of the report failed to learn from it.<sup>169</sup>

Saks concluded that “the adversary process failed to motivate lawyers to find and offer the most important evidence on the subject at issue.”<sup>170</sup> These deficiencies are often attributed to a science and math “black hole in legal education—a black hole that becomes harder to close the more removed it is from law school.”<sup>171</sup> Consequently, as Professor Jessica Gabel stated, “As lawyers, we are ill-equipped to speak the language of science.”<sup>172</sup>

Second, defense counsel often has limited resources. The availability of resources is an important dimension to the discussion surrounding the restriction of post-conviction review on the basis of incentivizing defense counsel to perform effectively at trial.<sup>173</sup> As Kim explained, however, “Although this reasoning is persuasive in the abstract, as a practical matter, reducing the number of trial errors would generally require attorneys to spend more time and resources representing each client.”<sup>174</sup> Most attorneys already ration the time they have with each client, so although restricted post-conviction review may make defense counsel *want* to provide enhanced representation, it “will generally have little effect on the actual representation they provide.”<sup>175</sup> Forensic experts can be expensive to hire and their applications can be time-consuming.<sup>176</sup> Counsel cannot “magic up” these resources (along with an adequate scientific knowledge to engage competently with the expert) simply because post-conviction review is limited.

Third, the adversarial system itself is limited. By “confronting jurors with counter-scenarios and competing arguments, the adversarial processes are supposed to provide an effective antidote

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169. Saks, *supra* note 1, at 1137.

170. *Id.*

171. Gabel, *supra* note 168, at 257–58.

172. *Id.* at 258.

173. Kim, *supra* note 17, at 564.

174. *Id.*

175. *Id.*

176. See Brandon L. Garrett, *Judging Innocence*, 108 COLUM. L. REV. 55, 126 (2008) (“Our system of criminal review certainly does not privilege factual claims. Locating an alibi witness, obtaining experts to challenge forensic evidence or undermine eyewitness identifications, or presenting evidence of defendants’ lack of capacity requires substantial resources and time.”).

to heuristic biases” involved in forensic evidence.<sup>177</sup> Heuristic biases are defined as “unconscious cognitive tendencies to oversimplify the evaluation of uncertain probabilities in all facets of decision making.”<sup>178</sup> These biases can explain why jurors tend to overvalue “big matches” (between a latent print and a suspect print) and undervalue “small non-matches.”<sup>179</sup> As explained below, if an expert testifies that there is a “match,” jurors tend to infer a higher probability that the defendant was the source of the suspect evidence.<sup>180</sup>

However, several researchers argue adversarial procedures do not provide effective antidotes to such biases. There are two main reasons for this:

First, even experts trained to recognize the ill-effects of cognitive biases unwittingly succumb to them. We should not assume, therefore, that lawyers are immune and can effectively wean jurors from these errors. Even if both sides are equally prone to mistakes, there is no reason to expect the mistakes as a whole to neutralize each other in regard to the search for the truth in a given case.<sup>181</sup>

Second, the state and defense “are unlikely to be similarly situated in relation to representativeness, simulation, confirmation, certainty, [or] uniqueness.”<sup>182</sup> For example, a party with a fingerprint or other “big” supporting evidence may have a heuristic bias advantage.

Even if the other side has an equally strong case . . . if making that case requires aggregation of the weight of many bits of “small” evidence, that party will get no uniqueness bounce and instead will be disadvantaged by multiple irrelevance fallacies. . . . [T]ogether with the various heuristic fallacies, the state’s monopoly over crime-scene evidence and first crack at key witnesses causes exactly this uneven distribution of advantages to

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177. Liebman et al., *supra* note 5, at 650.

178. *Id.* at 624.

179. *Id.*

180. See Dawn McQuiston-Surrett & Michael Saks, *Communicating Opinion Evidence in the Forensic Identification Sciences: Accuracy and Impact*, 59 HASTINGS L. J. 1159, 1165 (2008).

181. Liebman et al., *supra* note 5, at 650.

182. *Id.* at 650–51.

recur, systematically favoring the prosecution over the defense.<sup>183</sup>

Moreover, research suggests that cross-examination and rebuttal witnesses do not necessarily dilute the impact of such testimony, especially testimony suggesting or stating “individualization” given by experts. Scholars have explained that, “unfortunately, cross-examination and the use of opposing experts do not appear to effectively counter expert testimony, regardless of the logical vulnerability of the initial expert testimony.”<sup>184</sup> Professor Beecher-Monas has reported similar finding in mock jury studies:

For example, in mock jury studies about the effectiveness of cross-examination, it apparently made little difference whether the defense challenged the expert testimony; whether the defense pointed out in cross examination that the expert’s conclusions were inconsistent with prior research and that the expert had not followed standard methodology; whether the defense not only cross-examined the prosecution expert, but also put on its own expert. Although the jurors discussed the expert evidence in their deliberations, and although there was a strong correlation between the prosecution expert’s testimony and the jury’s verdict preferences,<sup>185</sup> the results did not vary among the first three conditions.

As a result, the adversarial process does not guarantee a cure for “shaky” expert forensic evidence. In light of these points, the courts’ reliance on defense counsel is perhaps too optimistic. Many lawyers are likely to be tackling fingerprint identification cases with “blunt tools,” including their own restricted scientific knowledge and ability to engage with scientific evidence, limited resources, and a low-impact and/or depleted adversarial arsenal. Courts should recognize these limitations when considering challenges to fingerprint identification evidence. Before restricting post-conviction review (or other motions) on the basis that counsel should “get it right the first time,” courts should recognize that is likely impossible to do.

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183. *Id.*

184. McQuiston-Surrett & Saks, *supra* note 180, at 1189.

185. Erica Beecher-Monas, *Reality Bites: The Illusion of Science in Bite-Mark Evidence*, 30 CARDOZO L. REV. 1369, 1407 (2009).

*B. Jurors and Scientific Evidence*

The courts' approach to challenges to fingerprint evidence also relies heavily on jurors. At present, the courts' approach appears to assume that jurors can evaluate such evidence accurately with ease. This assumption, however, neglects a meaningful assessment of how scientific evidence impacts jurors and how jurors digest scientific evidence. Trial courts' trust in jurors to evaluate such evidence accurately might well be misplaced. Like lawyers, the vast majority of jurors are not scientists.<sup>186</sup> Consequently, many have difficulty engaging with scientific evidence accurately, and, in particular, determining the appropriate weight to afford to specific evidence.<sup>187</sup> There is ample evidence that jurors consider forensic evidence "especially critical to their ultimate decision about guilt,"<sup>188</sup> have a thirst for scientific evidence,<sup>189</sup> and expect to see it, "particularly in cases where the majority of evidence is circumstantial."<sup>190</sup> Research has also found that jurors have inflated expectations of science.<sup>191</sup> As such, their ability to attach appropriate weight to forensic identification evidence is questionable.

This is an especially relevant consideration in forensic identification cases given that the ability of many forensic disciplines (including that of friction ridge analysis) to make "matches" has come under fire in recent years, and since 2005, there has been a move towards curtailing expert testimony by some courts.<sup>192</sup> For example, McQuiston-Surrett and Saks conducted a

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186. FAIGMAN, *supra* note 26, at 53.

187. See Valeria P. Hans, *Judges, Juries, and Scientific Evidence*, 16 J.L. & POL'Y 19, 23 (2007) (stating that jurors can have difficulty understanding scientific and technical evidence, particularly DNA evidence).

188. Pete Frick, *Forensic Science in Court: Challenges in the Twenty-First Century*, 27 SYRACUSE J. SCI. & TECH. L. REP. 145, 156 (2012); see also DONALD E. SHELTON, *FORENSIC SCIENCE IN COURT: CHALLENGES IN THE TWENTY-FIRST CENTURY* 102 (2011).

189. Donald E. Shelton et al., *A Study of Juror Expectations and Demands Concerning Scientific Evidence: Does the "CSI Effect" Exist?*, 9 VAND. J. ENT. & TECH. L. 331, 333 (2006) (discussing how jurors have high expectations that scientific evidence will be presented at criminal trials—expectations that translate into "demands for scientific evidence as a condition of guilt").

190. Frick, *supra* note 188, at 157.

191. Shelton et al., *supra* note 189, at 333.

192. This has mostly been the case in firearms identification evidence cases. See *Collision of Law and Science*, *supra* note 9, at 287 ("A number of American courts have changed their approach to the admissibility of firearms identification

study examining the impact on jurors of variations in the presentation of a forensic expert's findings.<sup>193</sup> The study varied the language and concepts by which the expert communicated the results of his examination that related to the forensic discipline of microscopic hair comparisons.<sup>194</sup> The study found that jurors inferred a higher probability that the defendant was the source of the crime scene hair when the expert testimony was presented in the form of a "match," "similar-in-all-microscopic-characteristics," or as an objective single-probability, than when it was presented in a subjective-probability or objective multiple-frequency format.<sup>195</sup> It also found that the evidence had a significant impact on the juror's determination of guilt.<sup>196</sup> The study showed that jurors often deferred to the opinion of experts when expert opinions were presented as a final conclusion about the evidence presented.<sup>197</sup> Jurors became more likely to find liability from "subjective probability" if expert opinions were presented in the form of definitive conclusions.<sup>198</sup> The study further revealed that jurors had difficulties "understanding statistical, and especially probability, data," and that they "underutilize[d] such information."<sup>199</sup> Interestingly, this study also found that judges were less influenced by the expert's testimony than jurors, and arrived at lower probability estimates that the defendant was the source of the crime scene evidence.<sup>200</sup> Such findings raise the possibility of whether judges substitute their own ability (and assessment of the evidence) for that of jurors, and are therefore overly trusting of jurors' ability to employ appropriate scrutiny to forensic evidence and afford it appropriate weight.

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evidence between 2004 and 2011. All of the aforementioned cases (except Santiago, Hicks, and Natson) have moved firearms examiners away from making claims of individualization by restricting them to specific terminology and phrases, which allegedly reflect less absolute conclusions."). Some courts have curtailed fingerprint identification evidence too, however. *See* Commonwealth v. Gambora, 933 N.E.2d 50, 61 n.2 (Mass. 2010); *supra* Part II.

193. McQuiston-Surrett & Saks, *supra* note 180, at 1165.

194. *Id.* at 1164.

195. *Id.* at 1165.

196. *Id.* at 1165–66.

197. *Id.* at 1188.

198. *Id.* at 1188–89.

199. *Id.* at 1189.

200. *Id.* at 1188–89.



Courts' decisions in labeling fingerprint identification heard by jurors (rightly or wrongly) as "harmless" also raise this concern.<sup>201</sup> For instance, in *Illinois v. Morris*, Morris appealed his first-degree murder conviction, arguing that his counsel was ineffective for failing to request an admissibility hearing regarding the fingerprint evidence against him.<sup>202</sup> The state's expert testified that a palm print recovered from a bloody shovel found at the crime scene matched Morris' palm print.<sup>203</sup> The court rejected his argument, reasoning that he did not suffer prejudice because, even without the fingerprint evidence, "there was still overwhelming evidence that he was guilty beyond a reasonable doubt."<sup>204</sup> This other evidence included that Morris was angry and acted aggressively towards the victim, he was observed leaving the victim's house just prior to the discovery of the murder, and that the blood on his clothing matched the victim's DNA profile. Somewhat similarly, in 2014, in *Abdul-Salaam v. Beard*, the appellant appealed his convictions for multiple violent offenses, claiming recent scientific developments undermined the "reliability and admissibility of [the] fingerprint evidence" against him.<sup>205</sup> The state presented evidence that his prints "matched" a print found on an extension cord wrapper at the crime scene.<sup>206</sup> In rejecting the argument, the court stated:

Appellant's argument conveniently overlooks that even in the absence of such fingerprint evidence, there was

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201. This judicial "trend" is very noticeable in post-conviction challenges to firearms identification evidence cases. In those cases, courts are relying on another value of finality; namely, the prevention of non-controversial claims flooding the system. A review of firearms appeals cases shows that courts often conclude the admission of "[firearms identification] evidence at trial [i]s 'non-prejudicial' in light of other evidence against the defendant. In other words, courts are terming the (legally sound or unsound) admission of firearms identification evidence as non-controversial." *Challenges to Firearms Identification*, *supra* note 20, at 458–60. Again, this rationale arguably overlooks the impact scientific evidence has on jurors, with numerous studies showing jurors place special trust in experts and scientific evidence. Moreover, studies have shown jurors to rate firearms examiners as among the most honest, competent, and influential experts. It also overlooks the complications jurors have in relation to understanding such evidence. *See id.*

202. *Illinois v. Morris*, 997 N.E.2d 847, 870 (Ill. App. Ct. 2013).

203. *Id.* at 850.

204. *Id.* at 872.

205. *Abdul-Salaam v. Beard*, 16 F. Supp. 3d 420, 466 (M.D. Pa. 2014).

206. *Id.*

overwhelming eyewitness testimony placing Appellant at the scene of the crime. At least four persons who were at the scene of the crime testified that Appellant shot the police officer. Thus, even if we were to accept Appellant's argument regarding the fingerprint evidence, Appellant is simply unable to show that the evidence would have altered the outcome of the trial.<sup>207</sup>

"[R]esearch suggests that statements made by experts are given considerable deference by jurors and their impact is unlikely to be undone either through cross-examination or rebuttal witnesses."<sup>208</sup> It is even suggested that jurors feel more inclined to credit an expert's testimony when subjected to vigorous cross-examination and more skeptical about the reliability of a defendant's rebuttal evidence. As one study concluded:

One might have expected an explication of the examination process, emphasizing the guesswork involved, would have a sobering effect on fact finders, but it appears instead to lead fact finders to be more impressed by the examination. Similarly, since most jurors begin with an exaggerated view of the nature and capabilities of forensic identification, one might expect that information explicitly informing fact finders about the limitations of the expertise would temper the jurors' inferences. Such information had little effect on jurors' judgments.<sup>209</sup>

Moreover jurors are not presented with the full picture. Instead, juries "hear highly practiced alternative stories that only roughly approximate what might be termed reality."<sup>210</sup> In terms of expert testimony, because of the adversarial model, "information that reaches the legal system [and hence the jury] does not represent the scientific field more generally."<sup>211</sup> Very often, jurors are presented with experts at the "margins of their disciplines" who are "chosen . . . because they are willing to be . . . more certain of

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207. *Id.*

208. Jonathan J. Koehler & Michael J. Saks, *Individualization Claims in Forensic Science: Still Unwarranted*, 75 BROOK. L. REV. 1187, 1206 (2010).

209. McQuiston-Surrett & Saks, *supra* note 180, at 1188.

210. FAIGMAN, *supra* note 26, at 65.

211. *Id.* at 54.

their conclusions.”<sup>212</sup> This approach gives jurors the impression that the relevant scientific field is more polarized than it actually is.<sup>213</sup>

In light of this, trial courts’ trust in jurors to assess fingerprint identification evidence accurately and place appropriate weight on such evidence is also, arguably, too optimistic. Fingerprint evidence has a persuasive impact on already science-thirsty jurors, who find comfort in expert certainty and have general difficulties with engaging in scientific evidence accurately. Courts should recognize this when considering challenges to fingerprint identification evidence. Before restricting post-conviction review (or other motions) on the basis that such evidence is best judged by the jury, courts should give more meaningful consideration to the problems jurors face when confronted by scientific evidence.

## V. CONCLUSION

Fingerprint identification evidence has been admitted into U.S. courtrooms for over a century. The NAS Report breathed life into cases where defendants had been convicted in whole or in part by fingerprint evidence. Between 2009 and 2014, many defendants have argued (with and without using the Report) that fingerprint identification evidence is unreliable and should not have been admitted against them. Despite concerns about the discipline’s ability to engage in individualization, however, courts continue to strongly favor the admission of fingerprint identification evidence, including claims of, or akin to, individualization. Case law examined in this article shows that there is a general trend by courts to rely on the adversary process to remedy concerns about the reliability of fingerprint evidence. By focusing on the filtering effects of the adversary process, and in particular the role of defense counsel, as a basis for rejecting challenges to the veracity of fingerprint evidence, the courts have been relying upon the key finality interest of incentivizing defense counsel to prevent errors at trial level. This rationale, however, is problematic.

This article argues that by rationalizing their decisions in this way, judges are overlooking important difficulties both lawyers and jurors have in relation to engaging with forensic identification evidence. It is likely that defense counsels are tackling fingerprint identification evidence with “blunt tools,” including their own

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212. *Id.*

213. *Id.*

scientific knowledge and ability to engage with scientific evidence accurately, limited resources, and a low-impact and/or depleted adversarial arsenal. Moreover, research shows that jurors are drawn towards alleged expert certainty, have inflated expectations of science, and also have general difficulties with engaging in scientific evidence accurately. As a result, jurors generally struggle to assess forensic identification evidence and afford it appropriate weight.

Professor Murphy recently concluded that by choosing “finality at all costs,” the criminal justice system is “destined to court either scandal or injustice, and perhaps both.”<sup>214</sup> This statement should resonate in cases involving challenges to forensic identification evidence, given nearly half of the now over 330 post-conviction DNA evidence exonerations in America are attributable, in some way, to invalidated and/or improper forensic evidence.<sup>215</sup> In light of this, and the points raised in this article, the courts should consider taking new perspectives on finality in such cases, and give more meaningful consideration to the issues that arise when law consumes science in this way.

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214. Murphy, *supra* note 18, at 672.

215. For an excellent discussion about the intersection of innocence and finality, see *CONTROVERSIES IN INNOCENCE CASES IN AMERICA*, *supra* note 8.