

# THE NONSCIENCE OF FINGERPRINTING: *UNITED STATES V. LLERA-PLAZA*

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## I. INTRODUCTION

In *United States v. Llera-Plaza*,<sup>1</sup> a federal district court held that the ability of fingerprint examiners to conclude that a “latent” print<sup>2</sup> originated from a particular individual had yet to be scientifically demonstrated.<sup>3</sup> The ruling sent shock waves through the community of fingerprint analysts, the FBI, and the Department of Justice.<sup>4</sup> The case became front page news.<sup>5</sup> Fearing that “prosecutorial effectiveness . . . would be seriously compromised,” the government urged the court to reconsider its order that the fingerprint analyst could not testify that the defendant was the source of the print in question. After a supplemental

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1. 179 F. Supp.2d 492 (E.D. Pa. 2002) [hereinafter *Llera-Plaza I*], vacated by 188 F. Supp.2d 549 (E.D. Pa. 2002) [hereinafter *Llera-Plaza II*]. Although withdrawn from the Federal Supplement, the first opinion can be found at No. 98-362-10, 2002 WL 27305 (E.D. Pa. Jan. 7, 2002).

2. A “rolled” print is obtained by rolling the finger on a suitable surface to produce a clear and more complete pattern. Traditionally, rolled prints were produced by coating the finger with ink, then rolling it on a piece of paper. In contrast, “latent” fingerprints are derived from the oil deposited on a surface that an unidentified individual has touched. They usually are incomplete or indistinct.

3. For critical analysis of previous cases rejecting challenges to fingerprint evidence based on inadequacies in its scientific underpinnings, see 3 MODERN SCIENTIFIC EVIDENCE: THE LAW AND SCIENCE OF EXPERT TESTIMONY § 27 (David L. Faigman et al. eds., 2d ed. 2002) [hereinafter 3 MODERN SCIENTIFIC EVIDENCE].

4. Several law professors previously suggested that such a ruling was only a matter of time. See Malcolm Ritter, *Fingerprints’ Accuracy on Trial*, L.A. TIMES, Apr. 8, 2001, at A1.

5. E.g., Adrian Cho, *Fingerprinting Doesn’t Hold Up as Science in Court*, 295 SCIENCE 418 (2002); Andy Newman, *Judge Rules Fingerprints Cannot Be Called a Match*, N.Y. TIMES, Jan. 11, 2002, at A14.

evidentiary hearing and study of the law of England,<sup>6</sup> the court reversed itself. "I disagree with myself,"<sup>7</sup> wrote the highly respected judge.<sup>8</sup>

These opinions are important not only as a window into the judicial process, but also because the analysis of fingerprints is so frequently held up as the paradigm of individual identification in forensic science.<sup>9</sup> Flaws in the scientific foundation for fingerprinting evidence are magnified when it comes to other forensic identification techniques,<sup>10</sup> and opinions that undermine the evidentiary status of fingerprinting can be expected to radiate well beyond this one technique. In addition, the *Llera-Plaza* opinions expose the difficulties in applying the evidentiary doctrine fashioned by the Supreme Court during the last decade to a form of expertise that is firmly established yet under-researched. This article, therefore, contrasts the two opinions, describes their strengths and weaknesses, and argues that the second opinion does little to undermine the result reached in the first instance. It also describes

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6. These exercises did little to change the state of the record on scientific validity. See David L. Faigman, *Is Science Different for Lawyers?*, 297 SCIENCE 339 (2002) (contending that the court shifted its ground from demanding a showing of scientific validity and reliability to accepting poorly documented claims of "specialized knowledge").

7. See *United States v. Llera-Plaza*, 188 F. Supp.2d 549, 570 (E.D. Pa. 2002) (referring to the significance of the subjective component of deciding whether prints match).

8. Before his appointment to the court, Judge Louis Pollak served as professor and dean at the law schools of the University of Pennsylvania and Yale University. See generally Cho, *supra* note 5.

9. Pretenders to the throne of unique identification methods seek to borrow strength from the dermatoglyphic fingerprinting by appending an honorific "print," "printing," or "fingerprinting" as designations. "Voiceprints," "ear prints," and "DNA fingerprinting" are examples of this rhetoric. Some legal commentators are so impressed with fingerprints that they refer to them when they mean something entirely different. See Jennifer N. Mellon, Note, *Manufacturing Convictions: Why Defendants Are Entitled to the Data Underlying Forensic DNA Kits*, 51 DUKE L.J. 1097, 1097 (2001) (citing William C. Thompson, *Evaluating the Admissibility of New Genetic Identification Tests: Lessons from the "DNA War,"* 84 J. CRIM. L. & CRIMINOLOGY 22, 22 (1993) (citing *People v. Wesley*, 533 N.Y.S.2d 643, 644 (N.Y. Sup. Ct. 1988))). Although Professor Thompson attributes to *People v. Wesley* the statement that "[w]hen forensic DNA testing arrived in the courtroom, it was heralded as the 'greatest advance in crime fighting technology since fingerprints,'" the opinion actually states "if DNA Fingerprinting works and receives evidentiary acceptance, it can constitute the single greatest advance in the 'search for truth,' and the goal of convicting the guilty and acquitting the innocent, since the advent of cross-examination." Compare Thompson, *supra*, at 22, with *Wesley*, 533 N.Y.S.2d at 644.

10. See, e.g., *State v. Kunze*, 988 P.2d 977 (Wash. Ct. App. 1999) (ear print match not generally accepted); Mark Hansen, *The Fine Print: Courts Split on Admissibility of Lip, Ear Impression Evidence*, 86 A.B.A. J., October 2000, at 18.

distortions of science that occur as advocates invoke the terminology of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,<sup>11</sup> with little understanding of its meaning.

## II. MOTIONS AND HEARINGS

Indicted on “drug and murder charges,”<sup>12</sup> Carlos Ivan Llera-Plaza and two codefendants moved to suppress the testimony of Federal Bureau of Investigation (“FBI”) fingerprint analysts linking them to the crimes. They argued that, as a general proposition, such a form of expert evidence “fails to conform to the standard for admitting expert testimony under Federal Rule of Evidence 702, as interpreted by the United States Supreme Court in *Daubert . . .* and *Kumho Tire Co., Ltd. v. Carmichael . . .*.”<sup>13</sup> Rather than simply opposing the motions, the United States “moved the court to (1) admit fingerprint evidence at trial, and (2) take judicial notice of the uniqueness and permanence of fingerprints.”<sup>14</sup>

The defendants and the government agreed to resolve these motions on the basis of pretrial testimony regarding fingerprint evidence presented in a previous case, *United States v. Mitchell*.<sup>15</sup> After reviewing the transcripts of that hearing and receiving memoranda from the parties in *Llera-Plaza*, the district court took judicial notice of the uniqueness and permanence of fingerprints but found that the FBI’s method of attributing fingerprints to individuals “does not meet *Daubert*’s testing, peer review, and standards criteria, and that information as to [the method’s] rate of error is in limbo.”<sup>16</sup> “Accordingly,” the court determined that “expert witnesses will not be permitted to . . . present ‘evaluation’ testimony as to their ‘opinion’ . . . that a particular latent print is in fact the print of a particular person.”<sup>17</sup> At the same time, the court did not prevent the government from using the fingerprint evidence entirely. It specified that:

[T]his court will permit the government to present testimony by fingerprint examiners who, suitably qualified as “expert” examiners by virtue of training

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11. 509 U.S. 579 (1993).

12. See *United States v. Llera-Plaza*, 188 F. Supp.2d 549, 550 (E.D. Pa. 2002).

13. *United States v. Llera-Plaza*, No. 98-362-10, 2002 WL 27305, at \*1 (E.D. Pa. Jan. 7, 2002) (citations omitted).

14. *Id.* at \*2.

15. No. 96-407 (E.D. Pa. 1999).

16. *Llera-Plaza I*, 2002 WL 27305, at \*18.

17. *Id.*

and experience, may (1) describe how the rolled and latent fingerprints at issue in this case were obtained, (2) identify and place before the jury the fingerprints and such magnifications thereof as may be required to show minute details, and (3) point out observed similarities (and differences) between any latent print and any rolled print the government contends are attributable to the same person.<sup>18</sup>

Dissatisfied with this outcome, “the government sought leave to enlarge the record through the presentation of evidence that FBI fingerprint examiners achieve conspicuous accuracy on annual fingerprint identification proficiency tests.”<sup>19</sup> Although Judge Pollak conceded “that neither . . . new, or hitherto unavailable, facts or new controlling law . . . was present,” he granted the government’s motion, explaining that

It seemed to me, nonetheless, that there was a factor peculiar to this case which militated in favor of agreeing to reconsider . . . . That factor was that the record underlying the January 7 opinion did not consist of testimony by witnesses I had actually seen and heard; my field of vision was a transcript of testimony presented in another courtroom more than two years ago.<sup>20</sup>

The government’s strategy succeeded. Its key witness, the “Unit Chief of Latent Print Unit 3 of the Forensic Analysis Section of the FBI Laboratory,”<sup>21</sup> “heretofore a name in a transcript, became a real person . . . .”<sup>22</sup> Although it is not clear that the witness had much new information to add to the previous testimony, Judge Pollak was impressed: “[T]hrough his live testimony I was able to get a substantially more rounded picture of the . . . process of fingerprint identification . . . .”<sup>23</sup>

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18. *Id.* In addition, the court stated that:

The defendants will be permitted to present their own fingerprint experts to counter the government’s fingerprint testimony, but defense experts will also be precluded from presenting “evaluation” testimony. Government counsel and defense counsel will, in closing arguments, be free to argue to the jury that, on the basis of the jury’s observation of a particular latent print and a particular rolled print, the jury may find the existence, or the non-existence, of a match between the prints.

*Id.* In parsing the testimony in this manner, the court followed the procedure employed by Judge Nancy Gertner for handwriting comparisons in *United States v. Hines*, 55 F. Supp.2d 62, 67 (D. Mass. 1999).

19. *See* *United States v. Llera-Plaza*, 188 F. Supp.2d 549, 553 (E.D. Pa. 2002).

20. *Id.*

21. *Id.* at 554.

22. *Id.* at 575.

23. *Llera Plaza II*, 188 F. Supp.2d at 575.

The two opinions raise more questions than they answer. Was judicial notice proper? How did the “more rounded picture” produce a different outcome? Was the *volte-face* justified? To answer such questions, we must attend to both the underlying records and the doctrinal analyses of the conflicting opinions.

### III. JUDICIAL NOTICE

#### A. *The Purpose of Judicial Notice*

Both opinions take notice of the uniqueness and permanence of fingerprints, but it is not clear why. The purpose of judicial notice is to shorten trials by avoiding the need for proof of obvious truths. Thus, judicial notice permits a court to find an indisputable fact<sup>24</sup> without hearing any testimony or other evidence, and to instruct a jury that it may do likewise.<sup>25</sup> However, because the expert in any case involving fingerprints can testify to uniqueness and permanence in the course of the testimony about the match, instructing the jury would not save any time.

Perhaps, then, the point of taking judicial notice of uniqueness is to simplify pretrial hearings on the admissibility of expert testimony. Again, however, if there is going to be a hearing, it is easy enough for an expert to claim uniqueness. Moreover, a court can rely on such a fact in ruling on admissibility even if it is not indisputable, and hence, judicially noticeable. Indeed, the federal rules limit judicial notice to “adjudicative” facts—those pertaining to the specifics of the case.<sup>26</sup> In pretrial hearings or other contexts, judicial notice is not needed for courts to rely on “legislative” facts, which are general propositions that cut across cases.<sup>27</sup> Propositions about the uniqueness of fingerprints and

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24. Whether notice should be limited to indisputable propositions is open to question, especially if the only purpose of the doctrine is to expedite trials. See 2 MCCORMICK ON EVIDENCE § 332 (John Strong ed., 5th ed. 1999) (discussing the competing views of Morgan and Wigmore). Federal Rule of Evidence 201 follows Morgan’s view that indisputability is required.

25. In civil, but not criminal, cases, Federal Rule of Evidence 201(g) makes judicially noticed facts conclusive.

26. See FED. R. EVID. 201(a).

27. For example, in allowing DNA evidence to be admitted, many courts have observed that the full genome of a human being (who has no identical twin) is unique. Although some courts describe this as a judicially noticed fact, even if they did not, it might be appropriate for them to rely on this proposition in ruling on pretrial motions to

the extent to which comparisons have been validated seem more like legislative than adjudicative facts. If so, they are not subject to judicial notice, and juries should not be instructed that fairly disputable legislative facts are true.

In short, it would seem that there is little point in taking “judicial notice” of the uniqueness and permanence of fingerprints. Nevertheless, the *Llera-Plaza* court’s action is likely to convince other courts that uniqueness and permanence are so well documented that the government need make no effort to prove these facts in pretrial proceedings in later cases. But is it so clear that these facts are beyond reasonable debate?

### *B. The Proof of Uniqueness and Permanence*

As to permanence, the government relied on one witness—a professor of gross anatomy and embryologist named William Babler.<sup>28</sup> The court explained his testimony as follows:

Based on his research involving the prenatal development of fingerprints, Dr. Babler testified that fingerprints are permanent. Because the deeply-rooted primary ridges form a template for secondary ridges—the ridges that are visible on the surface of the skin—he conjectured that only a very deep wound could alter a fingerprint.

Although there is no mention of any direct research into the permanence of fingerprints, the court concluded that “Dr. Babler’s research provides an adequate basis for this court to take judicial notice of the permanency of fingerprints.”<sup>29</sup>

Similarly, the district court relied on Dr. Babler’s theorizing with respect to uniqueness. Dr. Babler testified that “because multiple factors affect the prenatal development of fingerprint ridges, they must

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exclude DNA evidence. After all, the opponent of the evidence is free to persuade the court that the claim is not true by adducing evidence to the contrary in support of a motion to exclude.

28. The witness was once President of the American Dermatoglyphics Association. He defined dermatoglyphics as the “study [of] . . . configurations [which] we call friction ridges, from the aspect of looking at specific populational genetic components, looking at the relationships of these configurations for determining predictability for, say, a medical condition or for a variety of related situations.” *See United States v. Llera-Plaza*, No. 98-362-10, 2002 WL 27305, at \*1 n.3 (E.D. Pa. Jan. 7, 2002). The only information provided in the opinion about the Association is that it “has approximately 200 members.” *Id.*

29. *See id.* at \*7.

be unique.”<sup>30</sup> However, the court recognized that such reasoning represented a plausible theory rather than an established fact.<sup>31</sup> For direct evidence of the uniqueness of ridge patterns, the court relied on another government witness, “Donald Ziesig, an algorithmist at Lockheed Martin Information Systems.”<sup>32</sup> According to the court, Mr. Ziesig undertook two studies on 50,000 images of fingerprints:

The result of the first test, in which full-sized, one inch fingerprints were compared with each other, was that the probability of finding two people with identical fingerprints was one in ten to the ninety-seventh power. In the second test, the rolled prints were artificially cropped to the average size of latent prints so that only the center 21.7% of the rolled prints was analyzed, with the resultant conclusion that the probability of finding two different, partial fingerprints to be identical was one in ten to the twenty-seventh power.<sup>33</sup>

Although anyone with scientific or statistical training would raise both eyebrows upon hearing a probability of  $10^{-97}$  emerge from a study on a sample of less than  $10^5$ , the court accepted the testimony at face value.

If the government presented this study in *Llera-Plaza* without qualification, its behavior is disturbing. The study itself is unpublished and prepared expressly for litigation. Under the reasoning used by the authors, the data actually indicate that the chance of two fingers from different individuals producing rolled prints that appear to be identical could be on the order of one in a thousand.<sup>34</sup> Thus, the Lockheed-Martin probabilities have been noted—and dismissed—in the scientific and legal literature as “a gross underestimate of the true probability.”<sup>35</sup>

Nevertheless, uniqueness is part of popular folklore as well as the

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30. *Id.*

31. *Llera Plaza I*, 2002 WL 27305, at \*24-25 (“While this assertion makes intuitive sense, Dr. Babler did not actually compare fingerprint ridges to determine whether the assertion was factually correct.”)

32. *Id.* at \*3.

33. *Id.*

34. See D.H. Kaye, *Questioning a Courtroom Proof of the Uniqueness of Fingerprints*, INT’L STAT. REV. (forthcoming 2004).

35. See, e.g., Sharath Pankanti, et al., *On the Individuality of Fingerprints*, 24 IEEE TRANSACTIONS ON PATTERN ANALYSIS & MACHINE INTELLIGENCE 1010 (2002); cf. 3 MODERN SCIENTIFIC EVIDENCE, *supra* note 3, at § 27 (criticizing the study and concluding that “[a] test more faithful to the task at hand . . . would have obtained a more modest result.”); Robert Epstein, *Fingerprints Meet Daubert: The Myth of Fingerprint “Science” Is Revealed*, 75 S. CAL. L. REV. 605, 632 n.150 (2002).

received wisdom of the fingerprinting profession,<sup>36</sup> and the Lockheed-Martin report is not easily understood. Even assuming uniqueness of a full rolled print, however, the real issue is whether fragments of prints, or smeared prints, or layers of prints one upon another, can be accurately linked to one and only one person on earth. It is time to examine the court's antipodal opinions on this issue.

#### IV. *DAUBERT*, *KUMHO*, AND WHAT WE KNOW<sup>37</sup>

The FBI uses scientific sounding names for the process of comparing latent and rolled prints—terms like “ridgeology” and ACE-V (for “analysis,” “comparison,” “evaluation,” and “verification”) were injected into the *Mitchell* hearing. Indeed, one analyst testified that “verification . . . is a form of peer review, and it is part of the scientific process,”<sup>38</sup> and another proclaimed that “FBI fingerprint examiners are trained in the ‘quantitative/qualitative process’ [which] denotes an inverse relationship whereby the more quantity of detail that can be matched, the less clear the print has to be, and vice versa . . . .”<sup>39</sup>

The district court did not succumb to this jargon, and in *Llera-Plaza I*, it agreed “with the parties that . . . the *Daubert* factors constitute a proper touchstone of admissibility . . . .”<sup>40</sup> In *Llera-Plaza II*, however, the court decided that the failure of the proponent of the evidence to satisfy the *Daubert* factors was not decisive, and that under *Kumho*, there were other indications that ridgeology generated expert opinions that offered useful knowledge to the jury. To avoid the force of the court's first, probing opinion, the court adjusted “the focus of inquiry from ACE-V's status as a ‘scientific’ discipline to its status as a ‘technical’ discipline,” thereby altering “the angle of doctrinal vision.”<sup>41</sup> The best way to see this alteration is to consider the *Daubert* factors one

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36. E.g., Markus Stiicker, et al., *Interpapillary Lines-The Variable Part of the Human Fingerprint*, 46 J. FORENSIC SCI. 857, 857 (2001) (asserting that “[t]he dermatoglyphic pattern of human palms and soles is individually unique and unchanging except in cases of damage or rare diseases.”).

37. For this phrasing, I am indebted to Joseph Sanders, *Kumho and How We Know*, 64 LAW & CONTEMP. PROBS. 373 (2001).

38. See *United States v. Llera Plaza*, No. 98-362-10, 2002 WL 27305, at \*5 (E.D. Pa. Jan. 7, 2002). In the verification phase, “the [verifying] person actually starts right at the beginning and goes through the whole identification process again individually.” *Id.*

39. *Id.*

40. *Id.* at \*9.

41. See *United States v. Llera Plaza*, 188 F. Supp.2d 549, 562 (E.D. Pa. 2002).



by one.

### A. Empirical Testing

The court began by asking whether the claim that FBI analysts can match a latent print to a rolled print of one person to the exclusion of all other people has been tested. The government argued that “the ACE-V process and the experts’ conclusions have been tested empirically over a period of 100 years and in any particular case they can be tested by examination of the evidence by another expert.”<sup>42</sup> The court was unimpressed. It pointed out that “testimony by a second examiner . . . is not ‘testing’ of the ‘theory’ or the ‘technique’ of fingerprint identification in the *Daubert* sense.”<sup>43</sup> As for the 100 years of courtroom use, the court noted that “[a]dversarial’ testing in court is not, however, what the Supreme Court meant when it discussed testing as an admissibility factor,”<sup>44</sup> and “even 100 years of ‘adversarial’ testing in court cannot substitute for scientific testing when the proposed expert testimony is presented as scientific in nature.”<sup>45</sup> Thus, the court focused on the fact that the accuracy of the admittedly subjective “evaluation” phase of ACE-V had not been systematically studied. Both opinions concluded that “*Daubert*’s testing factor was not met . . . .”<sup>46</sup>

### B. Peer Review and Publication

The second “*Daubert* factor” is peer review and publication. The government maintained that “the fingerprint field and its theories and techniques have been published and peer reviewed during a period of

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42. See *Llera-Plaza I*, 2002 WL 27305, at \*9.

43. See *id.* at \* 10. As Judge Pollak lucidly explained:

With respect to “theory,” the fact that a second examiner, following the same “technique” as a prior examiner, reaches the same (or, indeed, a different) result, would not seem to shed any light on the validity of the “theory” underlying that “technique.” With respect to “technique”—assuming, for purposes of discussion, that the validity of the “theory” were acknowledged—it is difficult to see that a single confirmatory examination would be adequate to validate the “technique.” Conversely, it is not apparent that a result arrived at by a second examiner discrepant from a result arrived at by a prior examiner would (1) establish that the first result was erroneous, or (2) offer a secure basis for concluding that the “technique” was faulty.

*Id.*

44. *Id.*

45. See *Llera-Plaza I*, 2002 WL 27305, at \*11.

46. See *id.*; *Llera-Plaza II*, 188 F. Supp.2d at 564.

over 100 years.”<sup>47</sup> The court acknowledged “that there are numerous writings that discuss the fingerprint identification techniques employed by fingerprint examiners,” but inasmuch as “[i]t would thus be a misnomer to call fingerprint examiners a ‘scientific community,’” the court refused to equate these publications with “submission to the scrutiny of the scientific community” as discussed in *Daubert*.<sup>48</sup>

*Llera-Plaza II* did not depart from this conclusion. However, it gave much more credit to the opinions of the members of the guild. Indeed, Judge Pollak went so far as to suggest that the dearth of scientific, peer reviewed publications “does not seem to me to militate against the utility of the identification procedures employed by fingerprint specialists.”<sup>49</sup> To disregard the formidable gap in published scientific research, the court relied on the *Kumho* Court’s observation that,

[T]he test of reliability is “flexible,” and *Daubert*’s list of specific factors neither necessarily nor exclusively applies to all experts or in every case. Rather, the law grants a district court the same broad latitude when it decides how to determine reliability as it enjoys in respect to its ultimate reliability determination.<sup>50</sup>

But this merely means that the district court had the discretion, if not the obligation, to consider other indicia of validity besides those in the *Daubert* litany. It does not mean that the failure to conduct scientific research validating ridgeology does not count against judicial acceptance of the claims of the ridgeologists.

### C. Error Rate and Standards

Third, the *Llera-Plaza I* court considered “the known or potential rate of error . . . and the existence and maintenance of standards controlling the technique’s operation.”<sup>51</sup> The government witnesses distinguished, somewhat confusingly, between “methodology error” and “practitioner error.” To the extent that this distinction highlights the difference between (1) a method that works well when applied properly according to a well-defined protocol, and (2) departures from that

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47. See *Llera-Plaza I*, 2002 WL 27305, at \*11.

48. *Id.* at \*12.

49. See *Llera-Plaza II*, 188 F. Supp.2d at 563.

50. *Id.* at 562 (quoting *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 141-42 (1999)).

51. See *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 594 (1993).

protocol, it is a useful distinction. The primary focus of *Daubert*, after all, is methodology, not conclusions.

However, the FBI had no well-defined protocol for examiners to follow in deciding whether two prints matched to the point of establishing identity, just a vague mixture of what it called qualitative and quantitative considerations. Nevertheless, the chief of one of the FBI fingerprint units had the temerity to testify that the rate of error as “applied to the scientific methodology [was] zero.”<sup>52</sup> The court apparently accepted this characterization, but it understood that nothing turned on the choice of words. It simply stated that, “[i]t is the practitioner error rate that affects, for better or worse, the reliability of the fingerprint identification testimony . . . .”<sup>53</sup>

On this crucial issue, the government’s evidence was not reassuring. There were no realistic studies of the rate at which examiners might make false identifications, but the FBI had undertaken “a survey in which [it] sent Byron Mitchell’s ten-print card and alleged latent fingerprints to state agencies,”<sup>54</sup> and requested these agencies to “determine whether the latent prints matched the known Mitchell prints.”<sup>55</sup> The response “offered scant support for the accuracy of fingerprint identification. Nine of the thirty-four responding agencies did not make an identification in the first instance.”<sup>56</sup> In addition, the

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52. See *Llera-Plaza I*, 2002 WL 27305, at \*18.

53. See *id.* at \*15.

54. *Id.* at \*16.

55. *Id.*

56. See *Llera Plaza I*, 2002 WL 27305, at \*16. The court tried to back away from this conclusion in *Llera-Plaza II*, writing that:

[T]here were thirty-nine responding agencies, not thirty-four, each of the thirty-nine responding agencies having been sent Mitchell’s ten-print card and two latent prints. Second (and more important), the recital that “[n]ine of the . . . responding agencies did not make an identification” was materially misleading: thirty of the thirty-nine responding agencies correctly identified—i.e., achieved a proper match with respect to—both latent prints; of the remaining nine, four in fact did correctly identify one of the two latents, but failed to identify the other; only five of the responding agencies did not identify either of the two latent prints.

United States v. *Llera-Plaza*, 188 F. Supp.2d 549, 559 (E.D. Pa. 2002). Although the failure of five out of thirty-nine state agencies (twelve percent) to make correct identifications for even one of the two latent prints hardly instills confidence in the practice of fingerprinting, the *Llera-Plaza II* opinion downplays its significance:

The corrected figures call for some amendment of my conclusory observation, in [*Llera-Plaza I*] that “the survey results . . . are (modestly) suggestive of a discernible level of practitioner error.” If one were undertaking to calculate the “level of practitioner error,” the figures reflected in the stipulation signify a larger denominator and a smaller numerator than my January 7 statement implied.

*Llera-Plaza* defendants pointed out “that in proficiency examinations that were given to fingerprint examiners beginning in 1995, the error rates have been alarmingly high.”<sup>57</sup>

In *Llera-Plaza II*, the government produced evidence that “certified FBI fingerprint examiners have scored spectacularly well on the in-house annual proficiency tests . . . from 1995 to date.”<sup>58</sup> But this “spectacular” performance was not so stellar. A former fingerprint analyst for Scotland Yard testified that the internal proficiency tests were so easy that, “[i]f I gave my experts these tests . . . they’d fall about laughing.”<sup>59</sup> In light of such devastating testimony, the court found the government’s new proficiency test evidence of scant comfort to the government’s position. Even so, the court decided that the government’s inability to offer a meaningful estimate of an error rate was not a problem. It reached this curious result by reasoning that,

[T]he defense witnesses offered not a syllable to suggest that certified FBI fingerprint examiners as a group, or any individual examiners among them, have not achieved at least an acceptable level of competence. The record shows that over the years there have been at least a few instances in which fingerprint examiners, here and abroad, have made identifications that have turned out to be erroneous. But [none were] attributable to FBI examiners.<sup>60</sup>

The new proficiency-test evidence was not particularly helpful to the government, but the court’s shift in legal perspective made all the difference. In *Llera-Plaza I*, the court could discern no “controlling standards” in the evaluation phase of rigidology. To the contrary, the court noted the government’s expert testimony as to variations in objective criteria across jurisdictions and its reliance on subjective

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Furthermore, as bearing on the issues before this court, it is important to note that whatever practitioner errors Mr. Meagher’s survey may have been the catalyst of, those errors would have been those of examiners working for state agencies, not errors of FBI fingerprint examiners.

*Id.* at 559-60.

57. See *Llera-Plaza I*, 2002 WL 27305, at \*53 n.24. The court summarized the findings as follows:

In 1995, fewer than half of the 156 participating examiners—44%—correctly identified all five latent prints that were being tested, while 31% of the examiners made erroneous identifications. While the results had improved somewhat by 1998, only 58% of the examiners correctly identified all the matching prints and did not make incorrect identifications.

*Id.* (citations omitted).

58. See *Llera-Plaza II*, 188 F. Supp.2d at 565.

59. *Id.*

60. *Id.* at 565-66.

judgment.<sup>61</sup> Qualifications, it thought, were equally variable.<sup>62</sup> But the *Llera-Plaza II* court saw “new light . . . shed upon . . . controlling standards, by the recent three days of hearings.”<sup>63</sup> It discovered that the FBI’s testimony in *Mitchell* about the more rigorous requirement for declaring an identification in the United Kingdom was erroneous<sup>64</sup>—the U.K. has dispensed with any minimum quantitative measurement for making a positive identification.<sup>65</sup> The court also learned that, “[t]o be hired by the FBI as a fingerprint trainee, one must be a college graduate, preferably with some training in one of the physical sciences; to become a certified fingerprint examiner, the trainee must complete the FBI’s two-year in-house training program which winds up with a three-day certifying examination.”<sup>66</sup> Beyond the training program, the court apparently concluded that controlling standards were not necessary. Conceding that subjectivity sometimes is a bar to admissibility, the court now insisted that “the subjective ingredients of opinion testimony presented by a competent fingerprint examiner appear to be of substantially more restricted compass”<sup>67</sup> than engineers’ testimony about the causes of fires and market researchers’ use of consumer surveys to understand how consumers understand advertising claims.<sup>68</sup>

Yet, the only evidence of this “substantially . . . restricted” subjectivity was a statement in the House of Lords that a fingerprint examiner must address the following “issues before declaring that both mark and impression have been made by the same person”: “whether in each impression friction ridge features are of a compatible type; they are

61. See *Llera-Plaza I*, 2002 WL 27305, at \*16. There, the court stated that, [T]he application of this method, in particular whether a minimum number of Galton points must be identified before a match can be declared, varies from jurisdiction to jurisdiction. [One government witness] testified that the United Kingdom employs a sixteen-point minimum, Australia mandates that twelve points be found in common, and Canada uses no minimum point standard. In the United States, state jurisdictions set their own minimum point standards, while the FBI has no minimum number that must be identified to declare an ‘absolutely him’ match, but does rely on a twelve-point ‘quality assurance’ standard . . .

*Id.* (citations omitted).

62. *Id.* at \*58 (“There are no mandatory qualification standards for individuals to become fingerprint examiners, nor is there a uniform certification process.”).

63. See *Llera-Plaza II*, 188 F. Supp.2d at 564.

64. *Id.* at 566.

65. *Id.* at 567-70. How this departure from a rigid requirement creates a controlling standard is not explained.

66. *Id.* at 566.

67. *Llera-Plaza II*, 188 F. Supp.2d at 571.

68. *Id.* at 570-71.

in the same relative positions to each other in the ridge structure; they are in the same sequence; there is sufficient quantitative and qualitative detail in each in agreement; and there are any areas of apparent or real discrepancy.”<sup>69</sup> How much “control” these “standards” impose remains unknown.

#### *D. General Acceptance*

Finally, the court turned to the issue of general acceptance of ridgeology. Not surprisingly, the government’s witnesses reported that fingerprint examiners and law enforcement personnel believe in fingerprinting. Indeed, one agent even “sent a survey to state law enforcement agencies” and found that “[u]nanimously, all states responded, that they do use fingerprints as a means to individualize and they all believe in the two basic principles to our discipline, that is, fingerprints are unique and permanent.”<sup>70</sup>

In *Llera-Plaza I*, the district court found this kind of proof wide of the mark. It wrote that:

General acceptance by the fingerprint examiner community does not, however, meet the standard set by Rule 702. First, there is the difficulty that fingerprint examiners, while respected professionals, do not constitute a “scientific community” in the *Daubert* sense . . . . Second, the Court cautioned in *Kumho Tire* that general acceptance does not “help show that an expert’s testimony is reliable where the discipline itself lacks reliability.” [T]hus, while fingerprint examinations conducted under the general ACE-V rubric are generally accepted as reliable by fingerprint examiners, this by itself cannot sustain the government’s burden in making the case for the admissibility of fingerprint testimony under Federal Rule of Evidence 702.<sup>71</sup>

In *Llera-Plaza II*, however, Judge Pollak wrote:

I conclude that the fingerprint community’s “general acceptance” of ACE-V should not be discounted because fingerprint specialist—like accountants, vocational experts, accident-reconstruction experts, appraisers of land or of art, experts in tire failure analysis, or others—have “technical, or other specialized knowledge” rather than “scientific . . . knowledge,” and hence are not members of what *Daubert*

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69. *Id.* at 571.

70. *See* United States v. Llera-Plaza, No. 98-362-10, 2002 WL 27305, at \*17 (E.D. Pa. Jan. 7, 2002) (citation omitted).

71. *Id.* at \*18 (citations and footnote omitted).

termed a “scientific community.”<sup>72</sup>

This misrepresents the issue or begs the question. That fingerprint analysts are technicians rather than scientists does not alter the fact that there are no scientific studies (and hence no general acceptance in the scientific community) of attributions of identity based on ridgeology—a feat that one would expect forensic scientists to study with some care. This gap in our knowledge counsels against accepting assertions of knowledge by the technicians. That a guild trained in an art has a set of beliefs may be some evidence that these beliefs are true, and the court should not ignore this evidence. But neither should it count it very heavily in comparison with empirical validation of the claims of knowledge.

## V. CONCLUSION

Ultimately, the argument for admitting fingerprint identification that Judge Pollak found persuasive reduces to the following claim of the fingerprint community: We are well trained to offer opinions about the identity of individuals, and we have been doing it for over a century without anyone proving that we make many mistakes. As *Llera-Plaza I* so clearly reveals, this does not satisfy *Daubert*. And *Llera-Plaza II* does not hold otherwise. Instead, it holds that FBI examiners can give identification opinions without any effort to validate their claims to skill and knowledge by testing the accuracy of their judgments in a scientific experiment.

*Kumho Tire* arguably permits this outcome—the opinion is quite malleable<sup>73</sup>—but it does not require it. The *Llera-Plaza I* compromise of allowing the examiner to discuss the similarities in the prints would not have made fingerprint evidence inadmissible, but it might have had the salutary effect of spurring the government to undertake much needed research into the validity of the claims of the examiners who testify that a defendant is the only person on earth whose hand could have been the source of the partial fingerprint found at the crime scene.<sup>74</sup> The essential puzzle of *Kumho Tire* is how much is enough?<sup>75</sup>

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72. See *Llera-Plaza II*, 188 F. Supp.2d. at 563-64 (citations and footnote omitted).

73. See generally D.H. Kaye, *The Dynamics of Daubert: Methodology, Conclusions, and Fit in Statistical and Econometric Studies*, 87 VA. L. REV. 1933 (2001).

74. The court in *Llera Plaza II* explicitly rejected this incentive argument as a basis for excluding the evidence. See *Llera-Plaza II*, 188 F. Supp.2d at 572 (“For the

Unfortunately, the *Llera-Plaza* opinions do little to answer this fundamental question.

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National Institute of Justice, or other institutions both public and private, to sponsor such research would be all to the good. But to postpone present in-court utilization of this 'bedrock forensic identifier' pending such research would be to make the best the enemy of the good.").

75. See David L. Faigman, et al., *How Good is Good Enough: Expert Evidence under Daubert and Kumho*, 50 CASE W. RES. L. REV. 645 (2000).