

# Expert Testimony and the Quest for Reliability: The Case for a Methodology Questionnaire<sup>\*</sup>

## Introduction

Over the last three decades the Supreme Court has repeatedly considered the question of admissibility of expert testimony under Federal Rule of Evidence 702. Because the codification of the Federal Rules was liberal in spirit, the Court in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*<sup>1</sup> created a flexible, nonexclusive factor test to assess the reliability of expert testimony. While the test did address some questions about the new statutory standard, it raised many others and arguably left the legal landscape more uncertain than it had been under the common law.

In *Kumho Tire Co. v. Carmichael*,<sup>2</sup> the Court unequivocally announced that the *Daubert* inquiry was not limited to scientific expertise; rather, the Court determined that *Daubert*'s teachings applied equally to both scientific expertise and experience-based, technical fields. But the Court in *Kumho* did more than merely expand the reach of the *Daubert* inquiry outside the realm of conventional scientific expertise. It also explicitly broadened the factors that could be considered by the reviewing judge. *Kumho* made clear that the list of factors in *Daubert* was neither complete nor exclusive and noted not only that additional factors could be considered, but also that a court need not consider all the factors enumerated in *Daubert* itself. The result: a guideline that failed—and continues to fail—to give guidance to those who are supposed to follow it.

Due to the increased flexibility of the *Daubert* test along with this expansion of its application, courts have experienced trouble applying the *Daubert* formula. Lay judges with little, if any, scientific and technical background are given complete discretion to determine what to consider and how to consider it without any direction about what they actually *should* be considering. A judge's conclusion on reliability, then, seems highly dependent on his or her own views of what is methodologically important—an opinion that may be no more qualified than the opinion of

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1. 509 U.S. 579 (1993).  
2. 526 U.S. 137 (1999).

the common juror. Because there is little to support the idea that judges are any better equipped than jurors in making such reliability determinations, it is clear that *Daubert* and its progeny have not done much to help judges assess reliability in an effective way.

In practice, *Daubert* has instead injected ambiguity into the reliability inquiry. While one judge may review all four factors described in *Daubert* and determine that a particular expert's testimony is sufficiently reliable, another judge could conjure up a five-factor lens and find the exact opposite. The potential for such inconsistent outcomes suggests that *Daubert* may not be the rigorous, well-informed reliability inquiry the legal community needs to ensure that scientific and technical evidence is afforded its proper weight. The current formulation of this inquiry can, on the one hand, result in admission of unreliable expertise that will unduly sway juror decision making. On the other hand, however, the inquiry also creates the potential that extremely probative expert testimony, which would be very helpful to jurors, is deemed inadmissible. Greater guidance is undoubtedly needed.

This Note proposes not an alternative to *Daubert*, but rather an addition to the requirements courts place on expert testimony. Part I of this Note explains the state of the jurisprudential stage; it describes the development and extension of the *Daubert* inquiry. Part II describes the problems stemming from the evolution of *Daubert* and how its application is insufficient to ensure reliability of expert testimony. It highlights the concerns that arise out of the current formulation of *Daubert* and how seemingly conflicting conclusions on reliability can result from such an inquiry. Part III then gives examples of how the *Daubert* inquiry creates the potential for conflicting outcomes dependent only on the mind of the presiding judge. It shows how this risk is present in the context of traditional scientific testimony, and perhaps even more critically where technical, or simply novel, expertise is at issue. Part IV explains why the lack of reliability pervading expert testimony is problematic and Part V demonstrates how other evidentiary tools fail to check the weaknesses of the *Daubert* inquiry. Finally, Part VI proffers a potential solution: the implementation of a methodology questionnaire. While this additional step may not eradicate every issue plaguing the use of expert testimony in the courtroom, it functions as a helpful starting point to catch what may fall through the cracks of our present system.

## I. Background

Rule 702, the evidence rule governing expert witness testimony,<sup>3</sup> was initially promulgated in 1975 as part of Congress's broader effort to codify the Federal Rules of Evidence.<sup>4</sup> As enacted, Rule 702 set admissibility of expert testimony in the following terms: "If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise."<sup>5</sup>

Before Congress adopted this wording, however, the "general acceptance" standard elucidated in *Frye v. United States*<sup>6</sup> governed the admissibility of expert testimony.<sup>7</sup> The test adopted in *Frye* required expert testimony to be based on "a well-recognized scientific principle or discovery . . . sufficiently established to have gained general acceptance in the particular field in which it belongs."<sup>8</sup> Because the newly codified Rule 702 did not refer to general acceptance, codification sharply divided courts as to the proper standard for admissibility.<sup>9</sup>

### A. Clarifying the Rule 702 Inquiry—*Daubert v. Merrell Dow Pharmaceuticals, Inc.*

The Supreme Court first addressed this growing division in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* According to the Court in *Daubert*, the Federal Rules' failure to mention the *Frye* standard in combination with the complete absence of the "general acceptance" phraseology in the drafting history of the rule evinced congressional intent to supersede the common

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3. FED. R. EVID. 702.

4. See generally H.R. 5463, 93d Cong. (1973); *FRE Legislative History Overview Resource Page*, FED. EVIDENCE REV., <http://federalevidence.com/legislative-history-overview> [<http://perma.cc/YHB4-2BNY>] (summarizing the legislative history of the Federal Rules of Evidence).

5. Federal Rules of Evidence, Pub. L. No. 93-595, Rule 702, 88 Stat. 1926, 1937 (1975). Today, the restyled version of Rule 702 maintains a high degree of fidelity to the originally promulgated text. The contemporary version reads:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

(a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;  
(b) the testimony is based on sufficient facts or data;  
(c) the testimony is the product of reliable principles and methods; and  
(d) the expert has reliably applied the principles and methods to the facts of the case.

FED. R. EVID. 702.

6. 293 F. 1013 (D.C. Cir. 1923).

7. *Id.* at 1014.

8. *Id.*

9. See *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 587 n.5 (1993) (citing several instances where courts and commentators disagreed on the survival of the *Frye* test following the enactment of the Federal Rules of Evidence).

law rule.<sup>10</sup> While the Court described the competing rules as “incompatible” due to the conflict between the “austere” general acceptance standard and the “liberal thrust” of the newly promulgated rules, it did recognize potential limits on the admissibility of expert evidence.<sup>11</sup> The Court determined that the Federal Rules established a baseline that requires a judge to determine not only the relevance of the evidence, but also its reliability.<sup>12</sup>

Justice Blackmun, who delivered the opinion of the Court, elaborated that the standard for reliability was derived from Rule 702’s reference to “scientific knowledge.”<sup>13</sup> He clarified that “in order to qualify as scientific knowledge, an inference or assertion must be derived by the scientific method [and p]roposed testimony must be supported by appropriate validation.”<sup>14</sup> To this end, Justice Blackmun elucidated the following list of nonexclusive factors a judge could consider when faced with determining the validity of scientific testimony: (1) testability; (2) peer review and publication; (3) the known or potential rate of error; and (4) general acceptance.<sup>15</sup>

#### B. *The Expansion of Daubert—Kumho Tire Co. v. Carmichael*

Curiously, the flexible four-factor assessment established by Justice Blackmun has catalyzed a great deal of debate in the legal community.<sup>16</sup> Although *Daubert* clarified the relationship of the common law evidence standard to the newly codified Federal Rules, it left in its wake numerous ambiguities to be retrospectively addressed by courts. One particular area of ambiguity identified by scholars was the applicability—and frankly, the relevance—of *Daubert* to areas outside fields deemed traditionally

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10. *Id.* at 588.

11. *Id.* at 588–89.

12. *Id.* at 588.

13. *Id.* at 589–90.

14. *Id.* at 590 (internal quotation marks omitted).

15. *Id.* at 593–94.

16. See, e.g., Margaret A. Berger, *The Future of Daubert*, in 2 AMERICAN ASSOCIATION FOR JUSTICE: REFERENCE MATERIALS, ANNUAL CONVENTION 1621, 1622 (2007) (illustrating the impact of *Daubert* and the problems which continue to plague the inquiry); Robert J. Goodwin, *The Hidden Significance of Kumho Tire Co. v. Carmichael: A Compass for Problems of Definition and Procedure Created by Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 52 BAYLOR L. REV. 603, 607 (2000) (describing the continuing lack of direction regarding judicial gatekeeping with respect to expert testimony); Victor E. Schwartz & Cary Silverman, *The Draining of Daubert and the Recidivism of Junk Science in Federal and State Courts*, 35 HOFSTRA L. REV. 217, 218–19 (2006) (exploring differences in the way courts apply the *Daubert* inquiry and arguing that it fails to ensure accuracy and consistency in litigation results).

scientific.<sup>17</sup> The Supreme Court directly addressed the question of *Daubert*'s breadth in *Kumho Tire Co. v. Carmichael*.<sup>18</sup>

In *Kumho*, the Court repudiated the notion that Rule 702 creates schema to “segregate[] expertise by type while mapping certain kinds of questions to certain kinds of experts.”<sup>19</sup> While the Court recognized *Daubert*'s gatekeeping function, it emphasized that the role of the inquiry was to “make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.”<sup>20</sup> To this end, the Court highlighted that the list of factors elucidated in *Daubert* was a permissive one—to be applied at the discretion of the district judge.<sup>21</sup> Since *Kumho* has given federal judges so much leeway in applying the *Daubert* inquiry, the admissibility of expert testimony is now difficult to predict.

## II. *Daubert*'s Uncertainty

The difficulty of *Kumho*'s expansion and relaxation of the *Daubert* inquiry is apparent both in the context of conventional hard sciences and more experience-based expert testimony. In the latter case, however, and in the context of novel scientific expertise, this difficulty comes to a fore. As some scholars have recognized, the discretion with which district court judges may choose to apply the *Daubert* factors in evaluating the reliability—and the consequent admissibility—of expert testimony leaves this area of the law a morass of uncertainty.<sup>22</sup>

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17. See, e.g., Erica Beecher-Monas, *Blinded By Science: How Judges Avoid the Science in Scientific Evidence*, 71 TEMP. L. REV. 55, 56 n.10 (1998) (listing cases where judges have found it difficult to apply the *Daubert* standard to “technical” fields).

18. 526 U.S. 137, 141–42 (1999).

19. *Id.* at 151.

20. *Id.* at 152.

21. *Id.* at 153.

22. See, e.g., Daniel A. Krauss & Bruce D. Sales, *The Effects of Clinical and Scientific Expert Testimony on Juror Decision Making in Capital Sentencing*, 7 PSYCH. PUB. POL'Y & L. 267, 272 (2001) (noting that some district court judges may evaluate all expert testimony with a strict eye to the factors enumerated in *Daubert*, while others may, permissibly, completely ignore those factors); Robert Robinson, *Daubert v. Merrell Dow Pharmaceuticals and the Local Construction of Reliability*, 19 ALB. L.J. SCI. & TECH. 39, 64–69 (2009) (explaining how the doctrinal ambiguity created by *Daubert* “contributes to fragmentation and the local construction[s] of reliability”); A. Leah Vickers, *Daubert, Critique and Interpretation: What Empirical Studies Tell Us About the Application of Daubert*, 40 U.S.F. L. REV. 109, 120 (2005) (arguing that *Daubert*'s “gentle recommend[ation]” about what factors to consider is “likely to produce inconsistent, arbitrary, and unpredictable results”). See generally Cassandra H. Welch, Note, *Flexible Standards, Deferential Review: Daubert's Legacy of Confusion*, 29 HARV. J.L. & PUB. POL'Y 1085 (2006) (exploring the uncertainty created by the flexibility of the *Daubert* standard).

Under the Court's current approach, two diametrically opposed risks arise. On the one hand, the flexible approach taken in *Daubert* creates the potential that a district court judge applies the inquiry too stringently and limits out relevant and helpful expert testimony. On the other hand, the *Daubert* approach also creates the potential that the judge applies the standard too leniently and admits expert testimony that will be unjustifiably given greater weight than it is due by the jury.<sup>23</sup> Scholars and judges have expressed particular concern with the latter<sup>24</sup> and this concern is partly reflected in the very assumptions the Court made when it decided *Daubert*.

Some scholars argue that *Daubert* was, in part, a reaction to the Court's assumption that the jury is unable to differentiate between reliable and unreliable expert testimony without the court's assistance.<sup>25</sup> The solution set out in *Daubert* additionally relied on three subsidiary assumptions.<sup>26</sup> First, the Court assumed that lawyers themselves can and will recognize when expert research is flawed.<sup>27</sup> Second, the Court tacitly assumed that the diligent attorney who recognized such a flaw would spend at least some time cross-examining the expert witness as to that flaw.<sup>28</sup> Finally, the Court assumed that jurors would then be able to "glean information about flawed research methodology from a cross-examination

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23. *E.g.*, Krauss & Sales, *supra* note 22, at 273 (citing studies that describe how a jury may be unduly swayed by a witness's credentials when evaluating an expert's credibility); *see also* Daniel A. Krauss & Bruce D. Sales, *The Problem of "Helpfulness" in Applying Daubert to Expert Testimony: Child Custody Determinations in Family Law as an Exemplar*, 5 PSYCH. PUB. POL'Y & L. 78, 83 n.10 (1999) [hereinafter Krauss & Sales, *The Problem of "Helpfulness"*] (questioning how a district court judge can be expected to assess admissibility of a clinical psychologist's testimony in evaluating the future dangerousness of a criminal defendant when the error rate of his method is 20%, 30%, or 75%).

24. *See* Krauss & Sales, *supra* note 22, at 273 (noting concerns over whether the adversary process is capable of correcting potential juror bias in evaluating expert testimony).

25. *See, e.g.*, Richard D. Friedman, *The Death and Transfiguration of Frye*, 34 JURIMETRICS J. 133, 143-44 (1994) (arguing that *Daubert* may reflect a "continuing mistrust of the jury's ability to sort out the wheat from the chaff in considering scientific evidence"); Robert J. Goodwin, *Fifty Years of Frye in Alabama: The Continuing Debate Over Adopting the Test Established in Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 35 CUMB. L. REV. 231, 303 (2005) (stating that the Arizona Supreme Court characterized the *Daubert* decision as adopting the assumption that "trial judges as a group will be more able than jurors to tell good science from junk, true scientists from charlatans, truthful experts from liars, and venal from objective experts"); Margaret Bull Kovera et al., *Assessment of the Commonsense Psychology Underlying Daubert: Legal Decision Makers' Abilities to Evaluate Expert Evidence in Hostile Work Environment Cases*, 8 PSYCHOL. PUB. POL'Y & L. 180, 184 (2002) (observing that the Supreme Court "appears to assume that jurors are unable to differentiate between valid and flawed research without assistance").

26. Kovera et al., *supra* note 25, at 184.

27. *Id.*

28. *Id.*

and apply this information when rendering decisions.”<sup>29</sup> Even more importantly, however, the *Daubert* decision relies on an understanding that even if jurors are not well positioned alone to assess expert reliability, judges are.<sup>30</sup>

### III. The Difficulty of Judicial Gatekeeping Under *Daubert*

Although *Daubert* assumes that judges are competent in determining the reliability of expert testimony, little—if any—evidence actually supports this contention.<sup>31</sup> In fact, if anything, inquiries into this subject have concluded that, in spite of judges’ extensive experience with assessing reliability of expert testimony, judges may be no better than laypeople in identifying flawed or questionable expert methodologies.<sup>32</sup> Just like jurors, who frequently rely on an expert’s credentials in place of a searching assessment of methodological soundness,<sup>33</sup> studies have revealed that judges do the same.<sup>34</sup> In fact, there seems to be a lack of support for the argument that judges actually do critically evaluate an expert’s methodology or techniques in assessing reliability.<sup>35</sup> Rather, studies have found that judges, like jurors, tend to give undue weight to factors disconnected from methodological reliability.<sup>36</sup>

While such decision making may not on its face appear inappropriate or worrisome, there are risks in allowing factors that do not directly question an expert’s methodology or research to govern the reliability inquiry. Even where the judge does not rely on factors that bear little relation to methodological soundness, the *Daubert* inquiry’s lack of guidance on exactly how a judge should evaluate reliability can itself result in confusion. This is important not only because the legal community

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29. *Id.*

30. *Id.* at 185.

31. *See id.* at 185–87 (surveying studies examining the aptitude of judges and laypersons in assessing reliability of expert testimony).

32. *Id.*

33. *See Krauss & Sales, supra note 22, at 273–74.*

34. *See, e.g.,* Anthony Champagne et al., *Expert Witnesses in the Courts: An Empirical Examination*, 75 JUDICATURE 5, 9 (1992) (finding that the top two factors judges considered when assessing an expert’s reliability were experience in the field and educational credentials).

35. *See id.* at 8–10 (identifying a host of factors disconnected from scientific methodology that are considered by judges in making credibility and reliability determinations regarding experts); *cf.* Sarah Brew, *Where the Rubber Hits the Road: Steering the Trial Court Through a Post-Kumho Tire Evaluation of Expert Testimony*, 27 WM. MITCHELL L. REV. 467, 481–82 (2000) (identifying cases where the courts have determined that expert testimony lacked “intellectual rigor” merely because it was prepared solely in the context of litigation, without seriously assessing the validity of its methodology).

36. *See, e.g.,* Champagne et al., *supra note 34, at 8–10* (noting that, in response to an open-ended question on the reliability assessment, judges reported having considered factors including credentials, “demeanor or testimonial ability of the witness,” and even “the judge’s opinion of the lawyer using the experts”).

should strive toward certainty and predictability of legal standards, but also because expertise—even expertise that would not be considered conventionally scientific—may bear a high degree of relevance to a particular dispute and may ultimately be helpful in assisting the jury in coming to the correct outcome. The following two subparts concretely illustrate how the *Daubert* inquiry fails to give judges direction about how they should assess reliability of expert testimony.

A. *Daubert's Failure to Guide Judges in the Conventionally Scientific Context—Clinical Psychology and Child Custody*

Even in the case of conventional scientific testimony—expressly contemplated by the Court in *Daubert*—judges lack guidance and can reach contradictory outcomes when presented with the same testimony simply depending on what factors they consider and how they weigh those factors. One example of this arises in the context of expert testimony presented in child custody cases.<sup>37</sup> In child custody cases, the court is charged with assessing what is in the best interest of the child.<sup>38</sup> In making this determination, courts have frequently looked to the testimony of clinical psychologists regarding research on the postdivorce adjustment of children.<sup>39</sup> Daniel A. Krauss and Bruce D. Sales, however, have explained the difficulty with relying on such expert testimony.<sup>40</sup> On the one hand, Krauss and Sales note that while broad-strokes evidence showing the benefits of joint legal custody arrangements may be relevant to determining what is in the best interest of the child, it is not necessarily reliable and hence, under *Daubert*, should be excluded from consideration.<sup>41</sup> On the other hand, some more targeted studies demonstrating that joint legal custody arrangements have a negative effect on children's postdivorce outcomes when the parents are conflict prone are both relevant to the best-interest inquiry and are reliable, and would likely be admitted under *Daubert*.<sup>42</sup>

The fact that expert testimony based on clinical psychology studies could give rise to two different outcomes under *Daubert*—i.e., that one set of studies is found to be methodologically flawed and inadmissible, while

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37. Krauss & Sales, *The Problem of "Helpfulness," supra* note 23, at 92–94.

38. *Id.* at 88–89.

39. *See id.* at 90–92 (discussing the difficulties *Daubert* creates for such reliance).

40. *See generally id.* (illustrating how in certain situations such research may be reliable but not relevant, or relevant but not reliable).

41. *See id.* at 91 (noting that more recent studies regarding the effects of joint legal custody arrangements did not support previous research demonstrating the benefits of joint custody, and highlighting how previous research was less reliable because it focused on a sample of highly educated, high socioeconomic-status individuals).

42. *See id.* at 91–92 (describing how studies supporting this conclusion are more methodologically sound because they examined large samples with variable population groups).

the other is more reliable and should consequently be deemed admissible—makes *Daubert's* ambiguous reliability assessment particularly troubling. Krauss and Sales note that when the considerations in *Daubert* are applied to the child custody case, it becomes apparent that the assessment “is wholly dependent on which reliability concerns are applied by the judge, how they are weighted by the judge, and how strictly the judge adjudicates the fit of the evidence to the legal question.”<sup>43</sup> In the case of studies documenting joint custody in high-conflict situations, for example, Krauss and Sales show that two different judges could come to polar opposite outcomes on admissibility. A judge could focus on the fact that such studies focus on multiple different population samples and have yielded the same results, and that numerous research groups reaching such findings have published their results in peer-reviewed journals.<sup>44</sup> Based merely on these considerations, that judge could determine that expert testimony regarding joint custody in high-conflict situations is reliable and consequently admissible under *Daubert*.<sup>45</sup>

A judge applying the test more strictly, however, could find the opposite. If a judge were committed to conducting a more searching inquiry, he or she could focus on the lack of empirical evidence regarding four different concerns about expert testimony on the benefits of joint custody in the high-conflict situation:

The ability of mental health professionals to (a) assess in specific cases the level of conflict between two parents, (b) assess in specific cases how “caught in the middle” between their parents a child or children feel, (c) predict accurately in specific cases which children would be better served by custody arrangement other than joint custody, and (d) predict accurately in specific cases which alternative of several custody arrangements would maximize a child’s or children’s best interest . . . .<sup>46</sup>

Because no empirical research had been done to evaluate these issues at the time Krauss and Sales wrote their article, a judge considering such testimony could nevertheless find it inadmissible even when considering the exact same *Daubert* factors described above—testability and peer review—that would have, in the other circumstance, yielded a result of reliability and admissibility.<sup>47</sup> Since the expert’s testimony in such a case is clearly relevant, is it really prudent to rely on the whims of the district judge in determining whether the evidence should be admitted? What happens when expert testimony is excluded in spite of its reliability because the judge

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43. *Id.* at 92.

44. *Id.*

45. *Id.*

46. *Id.* at 93.

47. *Id.*

fears the jury will give the evidence undue weight? Or, on the other side of the coin, how does a court ensure that more technical expert testimony that is allowed in is appropriately scrutinized by the jury? In the latter circumstance, can the court be certain that the jury will not be misled simply because the parties have an opportunity to cross-examine one another's experts?

*B. Daubert's Failure to Guide Judges in the Context of Technical Expertise—Judge Pollak and Fingerprint Evidence*

Contrary to what may be perceived from the previous discussion, however, this problem is not merely the stuff of law reviews nor is it cabined to “new” technological evidence. One federal judge's experience with using the *Daubert* inquiry to evaluate the reliability of fingerprint evidence is particularly illustrative. In his first evaluation of the reliability of expert fingerprint testimony in *United States v. Llera Plaza*,<sup>48</sup> Judge Pollak carefully examined the reliability of fingerprinting techniques using the *Daubert* factors.<sup>49</sup> Although Judge Pollak recognized that other courts had repeatedly found fingerprint testimony reliable and even took judicial notice of the uniqueness and permanence of fingerprints,<sup>50</sup> he limited the admissibility of this testimony to presentation of “similarities and differences between a particular latent print and a particular rolled print alleged . . . to be attributable to the same persons.”<sup>51</sup> In other words, while Judge Pollak allowed a presentation of the bare “data” obtained from the fingerprint analysis, he did not permit the expert to express an opinion about whether a latent and a rolled print “match.”<sup>52</sup>

In reaching this conclusion, Judge Pollak took an incisive look at the factors enumerated in *Daubert*.<sup>53</sup> First, he determined that fingerprinting analysis lacks “objectivity[,] uniformity[,] and systemization”—characteristics critical to testability.<sup>54</sup> Second, Judge Pollak analyzed fingerprinting under the peer review and publication factor.<sup>55</sup> Although the judge noted that fingerprinting experts frequently corroborated one another's findings, he found that the subjective nature of the conclusion drawn by an expert in this field inherently undermined the import of that review (and certainly constituted less than the peer review contemplated in

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48. *United States v. Llera Plaza*, 179 F. Supp. 2d 492, 2002 WL 27305 (E.D. Pa.) (depublished), *vacated and superseded by* 188 F. Supp. 2d 549 (E.D. Pa. 2002).

49. *Plaza*, 2002 WL 27305, at \*9–18.

50. *Id.* at \*6–7. These qualities potentially increase the likelihood that fingerprint evidence can serve to accurately identify individuals. *Id.* at \*2.

51. *Id.* at \*19.

52. *Id.*

53. *Id.* at \*8–18.

54. *Id.* at \*12.

55. *Id.*

*Daubert*).<sup>56</sup> Third, Judge Pollak found that subjectivity pervades fingerprint identification and that the analysis fails to employ any sort of controlling standards that could increase reliability.<sup>57</sup> Finally, Judge Pollak determined that fingerprint analysis was generally accepted by the fingerprinting community and, more broadly, by the legal community and hence met the general acceptance factor.<sup>58</sup> Because fingerprint analysis failed to meet the first three *Daubert* factors, however, Judge Pollak determined that its reliability was at least somewhat questionable.<sup>59</sup> Consequently, he found it prudent to admit the objective portions of the analysis and limit out the subjective conclusions drawn from the data.<sup>60</sup>

Just over two months after making this finding, Judge Pollak granted the government's motion for reconsideration of his prior ruling.<sup>61</sup> While the judge once again found that fingerprint evidence was not testable—at least not in the *Daubert* sense—he reached different conclusions regarding the other factors.<sup>62</sup> First, Judge Pollak found that general acceptance of fingerprint identification analysis should not be discounted merely because those specializing in the field have “technical” rather than “scientific” expertise.<sup>63</sup> On a similar note, he determined that publication in “forensic journals” as opposed to “scientific” ones did not “militate against the utility of the identification procedures employed by fingerprint specialists.”<sup>64</sup> In reexamining the rate of error attributable to fingerprint analysis, Judge Pollak this time focused his inquiry away from the subjective nature of the analysis. Instead, Judge Pollak noted the seeming absence of any evidence of erroneous identifications based on fingerprint evidence.<sup>65</sup> Moreover, the judge now found that the training endured by aspiring fingerprint examiners was clear and controlled the quality of fingerprint analysis.<sup>66</sup> Ultimately, while Judge Pollak still qualified his opinion by noting that differing circumstances should inform a trial judge's exercise of discretion on a case-by-case basis, he found that the “subjective ingredients of opinion testimony presented by a competent fingerprint examiner” appeared more

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56. *Id.* at \*12–13.

57. *Id.* at \*17.

58. *Id.* at \*17–18.

59. *Id.* at \*18.

60. *Id.*

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

62. *Id.* at 563–74.

63. *Id.* at 563–64.

64. *Id.* at 563.

65. *Id.* at 565–66.

66. *Id.* at 566.

restricted than other types of expert testimony deemed admissible by courts.<sup>67</sup> Through this analysis, Judge Pollak found the same fingerprint testimony that he had previously restricted based on a stringent application of *Daubert* fully admissible and reliable.<sup>68</sup>

The very fact that a single district judge changed his opinion regarding the reliability of the same expert testimony in the span of a few months demonstrates the lack of guidance provided by the *Daubert* inquiry. If that single judge reached two distinct conclusions about the same evidence by merely applying the *Daubert* factors with varied degrees of stringency, it becomes apparent that *Daubert*'s guidance regarding what to consider actually provides no guidance at all; rather, the *Daubert* inquiry has left the determination of reliability to the whims of the district judge. This is troubling due to the lack of evidence showing that district judges are well equipped to evaluate the reliability of an expert's testimony without external guidance. Without added safeguards, it remains unclear that the legal system will be shielded from the very real dangers that can arise when reliability is not properly scrutinized.

#### IV. The Impact of Improperly Screening for Reliability

One difficulty that certainly arises in this context is the risk that the judge who decides the reliability question without sufficient care will be exposing the jury to evidence that could unjustifiably prejudice its determination on a critical issue in the case.<sup>69</sup> Because a district court's determination on the reliability of expert testimony using the *Daubert* inquiry is reviewed for an abuse of discretion<sup>70</sup>—allowing reversal only where the trial court's finding was “clearly erroneous”—care should be taken in applying this test. There is little assurance in the case of expert testimony that even an imprudent determination by the district judge will be

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67. *Id.* at 570–71.

68. *Id.* at 575–76.

69. Champagne et al., *supra* note 34, at 8 (finding that 65% of jurors believed expert testimony was critical to the outcome of a case and showing that jurors' evaluations of expert reliability and believability turned on several factors, including: (1) their ability to describe concepts in a nontechnical fashion; (2) the willingness of the expert to reach firm conclusions; (3) educational credentials; (4) reputation; (5) a pleasant personality; and (6) attractive physical appearance); see also James M. Doyle, *Applying Lawyers' Expertise to Scientific Experts: Some Thoughts About Trial Court Analysis of the Prejudicial Effects of Admitting and Excluding Expert Scientific Testimony*, 25 WM. & MARY L. REV. 619, 636 (1984) (describing how courts worry that jurors will give expert testimony undue weight because it may be accompanied by an “aura of special reliability and trustworthiness”); David L. Faigman, *Admissibility Regimes: The “Opinion Rule” and Other Oddities and Exceptions to Scientific Evidence, the Scientific Revolution, and Common Sense*, 36 SW. U. L. REV. 699, 712–14 (2008) (examining a California Supreme Court opinion arguing that jurors who are typically capable of injecting a healthy skepticism into their assessments of credibility fail to do so when expert testimony is involved).

70. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 142 (1999) (citing *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 143 (1997)).

caught on appeal, let alone that it will be corrected. But why does this matter? The answers to some of the questions asked in the previous Part highlight the problems that may arise from an improper determination of reliability in the context of expert testimony.

One area where such concerns have been aired is in the context of using neuroscience evidence in the course of a jury trial.<sup>71</sup> One student scholar, E. Spencer Compton, has highlighted three problem areas that arise in presenting expert testimony to a jury.<sup>72</sup> First, jurors may fail to recognize the limits to scientific or technical expert testimony.<sup>73</sup> Second, the way that expert evidence is presented to the jury may affect how that evidence is weighed.<sup>74</sup> Third and finally, there exists a possibility of misleading the jury given an expert's failure—or even the attorney's failure—to draw out

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71. See generally Justin Amirian, *Weighing the Admissibility of fMRI Technology Under FRE 403: For the Law, fMRI Changes Everything—And Nothing*, 41 *FORDHAM URB. L.J.* 715 (2013) (discussing the probative value and admissibility of fMRI lie-detector tests); Henry T. Greely & Judy Illes, *Neuroscience-Based Lie Detection: The Urgent Need for Regulation*, 33 *AM. J.L. & MED.* 377 (2007) (arguing that government regulation is needed to maximize the benefit and reduce the potential harm of neuroscience-based lie detection); Sally Terry Green, *The Admissibility of Expert Witness Testimony Based on Adolescent Brain Imaging Technology in the Prosecution of Juveniles: How Fairness and Neuroscience Overcome the Evidentiary Obstacles to Allow for Application of a Modified Common Law Infancy Defense*, N.C. *J.L. & TECH.*, Fall 2010, at 1 (arguing that neuroimaging should be used to evaluate a juvenile's criminal culpability); E. Spencer Compton, Note, *Not Guilty by Reason of Neuroimaging: The Need for Cautionary Jury Instructions for Neuroscience Evidence in Criminal Trials*, 12 *VAND. J. ENT. & TECH. L.* 333 (2010) (discussing the risks that neuroscience evidence be given undue weight by a jury).

72. Compton, *supra* note 71, at 343–47. While Compton discusses these areas with respect to neuroscience, it is easy to see how these same concerns would apply to testimony presented by anyone termed an “expert” in a particular scientific or technical field in which jurors and lawyers would have little or no background. For instance, consider the recent scandal involving the Federal Bureau of Investigation's use of hair analysis. See Spencer S. Hsu, *FBI Admits Flaws in Hair Analysis Over Decades*, *WASH. POST* (Apr. 18, 2015), [http://www.washingtonpost.com/local/crime/fbi-overstated-forensic-hair-matches-in-nearly-all-criminal-trials-for-decades/2015/04/18/39c8d8c6-e515-11e4-b510-962fcfab310\\_story.html](http://www.washingtonpost.com/local/crime/fbi-overstated-forensic-hair-matches-in-nearly-all-criminal-trials-for-decades/2015/04/18/39c8d8c6-e515-11e4-b510-962fcfab310_story.html) [<http://perma.cc/5NZB-E4UA>] (“The Justice Department and FBI have formally acknowledged that nearly every examiner in an elite FBI forensic unit gave flawed testimony in almost all trials in which they offered evidence against criminal defendants over more than a two-decade period before 2000.”). The Justice Department and the FBI's formal acknowledgment regarding this debacle describing the “flaws” in their hair analysis techniques included recognition that many of the FBI examiners had overstated their results. *Id.* While the *Washington Post* article mentioned here does not focus on *Daubert*, it is evident that a more searching inquiry into the methodology followed by the FBI's experts could have provided a check on the weight afforded to that expert testimony by demystifying just how “certain” the FBI's hair analysis techniques were.

73. See Compton, *supra* note 71, at 343–44 (noting that jurors may fail to recognize that neuroimaging cannot fully explain brain functioning on an individual basis).

74. See *id.* at 345–46 (describing the captivating effect of brain scans, which may cause juries to overestimate their value).

where rote data collection stops and the subjective interpretation of that data begins.<sup>75</sup> Together, these concerns could result in the improper use of expert testimony by jurors if additional safeguards are not put in place.<sup>76</sup>

Perhaps, instead of putting judges in the position where they are charged with the ever-important gatekeeping role at the front end, we should allow them to be more lenient with admissibility initially and provide additional checks on the back end to ensure that expert testimony is sufficiently scrutinized. Since it remains unclear that judges are better positioned to evaluate expert reliability than jurors<sup>77</sup> and the reliability determination hinges on how a judge evaluates an expert's methodology,<sup>78</sup> an additional safeguard ensuring that the appropriate factors regarding methodology are considered would be a desirable one. In fact, providing a check while still allowing particular expert testimony to be considered may be especially important in light of ongoing advances in technology that could ultimately hold the key to greater justice in the courtroom.<sup>79</sup>

#### V. Why Current Methods of Regulating Evidence Fail to Check Problems with Assessing Reliability of Technical Evidence

While *Daubert* and its extension in *Kumho* undoubtedly provide a useful check on the range of expert testimony permitted in the courtroom, the guidelines promoted by the Supreme Court in these opinions do not give judges a clear guideline for assessing reliability. Instead of relying on the role of the judge as the gatekeeper, I argue that courts should err on the side of flexibility in adopting the *Daubert/Kumho* inquiry, and that a methodology questionnaire should be adopted to ensure that both judges and juries consider relevant factors regarding an expert's methodology in assessing the reliability of that testimony. Before enumerating the exact

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75. See *id.* at 346–47 (noting that a testifying psychiatrist may not thoroughly understand the limits of using neuroimaging technology for diagnosis and warning that a “skillful attorney” could mislead such an expert into inadvertently overstating their diagnostic potential).

76. This conclusion is not unfounded. See, e.g., Hsu, *supra* note 72 (“[P]attern-based forensic techniques . . . have contributed to wrongful convictions in more than one-quarter of 329 DNA-exonerated cases since 1989.”).

77. See *supra* Part III.

78. See *supra* subpart III(A). In the context of the child custody case, the conflict between a hypothetical judge's decisions on reliability and admissibility of the evidence is essentially a methodological one. While the judge applying *Daubert* in a more relaxed manner looks to the advantages of the employed methodology, the judge who takes a more scrutinizing view focuses on areas not addressed by the expert's approach.

79. E.g., Compton, *supra* note 71, at 339–43 (arguing for the potential benefits of using neuroimaging in criminal trials to more accurately determine things like *mens rea* and insanity); see also DAVID L. FAIGMAN ET AL., 1 MODERN SCIENTIFIC EVIDENCE: THE LAW AND SCIENCE OF EXPERT TESTIMONY § 1–1.0 (2002) (“The problem of defining standards for admitting scientific expert testimony is one with a venerable history and, in all likelihood, an enduring future . . . . Science and technology will only grow in importance in the twenty-first century.” (footnote omitted)).

elements that should make up such a questionnaire, I will examine the inadequacy of current tools, which some scholars have argued should be used to check the potentially misleading effects of expert testimony.

A. *Establishing a Foundation*

One currently established practice that bears a good deal of similarity to the proposal I put forth in this Note is the judicial custom of establishing a foundation. Expert testimony must first be deemed admissible by the judge before it is even considered for reliability under the *Daubert* inquiry.<sup>80</sup> In laying a foundation for the evidence, the attorney seeking admission of the testimony at issue is required to show that the witness is reliable.<sup>81</sup> To this end, the attorney proffering the witness has latitude to ask a variety of questions in an effort to convince the court that the witness is reliable as an expert in his or her particular field.<sup>82</sup> The hearing at which this qualification determination is made—which can be either in front of or without the jury, at the discretion of the court—also provides the party opposing admission of the testimony an opportunity to cross-examine the expert to show that he or she is not a reliable source.<sup>83</sup>

This process, however, is not a uniform one. Rather, attorneys have broad latitude in determining what questions to ask the expert, and judges have considerable discretion to make the determination of reliability solely at the foundational stage, or later after the expert is asked questions specific to the testimony being presented at trial.<sup>84</sup> Because judges need not require that attorneys ask particular questions of an expert, there remains no assurance that laying a foundation alone can guarantee reliability or even that it can guarantee that a judge is considering the “correct” factors antecedent to allowing the testimony to come before the jury or deeming it inadmissible. Consequently, in order for this practice to function in a way that adequately accounts for different factors that should be considered in

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80. See generally CHARLES ALAN WRIGHT & VICTOR JAMES GOLD, 29 FEDERAL PRACTICE AND PROCEDURE § 6265 (1997) (explaining issues concerning expert witness qualification).

81. *Id.*

82. *Id.*

83. *Id.*

84. See *id.* (“Rule 702 does not require that courts employ any specific procedure for receiving evidence concerning expert qualifications.”); BERNARD TAYLOR ET AL., AM. BAR ASS’N, EXPERT WITNESSES ¶¶ 22–23 (2013), [http://www.americanbar.org/content/dam/aba/administrative/litigation/materials/sac2013/sac\\_2013/52\\_%20best\\_practices\\_for\\_working\\_events\\_authcheckdam.pdf](http://www.americanbar.org/content/dam/aba/administrative/litigation/materials/sac2013/sac_2013/52_%20best_practices_for_working_events_authcheckdam.pdf) [<http://perma.cc/SG99-HHFN>] (listing the types of questions that must be asked and evidence that should be elucidated from a witness to lay a foundation for their testimony); Deborah D. Kuchler, *An In-Depth Look at Direct Examination of Expert Witnesses*, 60 FDCC Q. 151, 158–62 (2010) (providing a framework of questions and topics an attorney should cover in laying a foundation).

assessing reliability of an expert's testimony and the methodology underlying that testimony, it would be helpful to provide judges, attorneys, and juries with greater guidance up front regarding how an expert reached a particular conclusion.

### B. *Jury Instructions*

E. Spencer Compton argues that the problems I have identified regarding the reliability of expert testimony could be cured, at least in part, through jury instructions.<sup>85</sup> Compton begins his description of a potential solution by contending that—at least in the context of neuroscience—expert testimony may be highly probative.<sup>86</sup> As a result, he concludes that there are negatives to strictly limiting such testimony.<sup>87</sup> Instead of using *Daubert* to completely bar admission of such testimony, Compton urges that courts adopt a new set of pattern jury instructions to account for and alleviate many of the concerns regarding the reliability and soundness of expert testimony.<sup>88</sup> Compton further notes that although pattern jury instructions regarding expert testimony do currently exist, they are lacking.<sup>89</sup>

Although contemporary jury instructions regarding expert testimony sensitize the jury to the fact that they should treat an expert's statement in court in the same way that they would evaluate any other testimony,<sup>90</sup> they fail to specifically raise the particular potential for bias and undue influence that arises when someone is termed an "expert" and the jury is confronted with complicated technical or scientific evidence.<sup>91</sup> Compton argues that a new set of instructions could resolve this weakness with the current system. He advocates that juries considering neuroscience evidence be confronted with specific instructions outlining the potential limits of such evidence.<sup>92</sup>

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85. See Compton, *supra* note 71, at 347 (advocating for new jury instructions based on seven factors that focus juries on determining the weight and sufficiency of expert testimony).

86. *Id.* at 346–47. I would argue that Compton's reasoning—that new, more technical fields of expertise are informative, but also present many areas for mistake—applies well to expert testimony generally, and particularly to those fields to which the *Daubert* inquiry was expanded in *Kumho*.

87. *Id.*

88. See *id.* at 347 ("Factors to be considered by the jury in determining the relative weight and sufficiency of expert testimony include: (1) ability and character of the witness, (2) witness's actions on the witness stand, (3) weight and process of reasoning by which the expert has supported her opinions, (4) possible bias in favor of side for whom witness is testifying, (5) whether the witness is being paid, (6) relative opportunities for study or observation of the subject at issue, and (7) any other matters that serve to illuminate the witness's statements.").

89. *Id.* at 347–48.

90. *Id.*

91. See *id.* (finding that calling a witness an "expert" may create an aura of infallibility around that individual's testimony (citing Jennifer Kulynych, Note, *Psychiatric Neuroimaging Evidence: A High-Tech Crystal Ball*, 49 STAN. L. REV. 1249, 1269 (1997))).

92. See *id.* at 351–52 (proposing a sample jury instruction that describes the expert's determination as one that is partially based on the individual's educated opinion, cautioning that

While such instructions would undoubtedly help highlight the limits of expert testimony, they may not be enough. Even Compton recognizes that the instructions he promotes are general and do not “give detailed information about the science.”<sup>93</sup> Although a more detailed enumeration of the particular science involved may not be necessary in all instances, consider the potential differences in reliability even between two very closely related studies.<sup>94</sup> For example, while one clinical psychology study based on a smaller sample size and less diverse population may yield a particular result, a very similar study in the same field but using a more diverse and expansive sample may show the opposite. Would it make sense, then, for a jury to be charged with the same pattern jury instruction for both since they are in the same general field of expertise?

Compton does recognize that judges may have to amend instructions at times in order to account for circumstances like those described in the previous paragraph.<sup>95</sup> But, once again, this may not be the best way to guard against reliability problems in the context of complex scientific or technical matters in which judges themselves lack experience.<sup>96</sup> Without a comprehensive list of factors to consider regarding the methodology used by an expert, judges are unlikely to have much of a concrete idea about how they should instruct the jury. A judge in this position—just as the one complying with less lenient rules on jury instructions and using *Daubert* as the primary means of checking expert testimony—may not be able to discern what is truly important in assessing the reliability of an expert’s conclusions.

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jurors scrutinize such evidence given its limitations and emphasizing jurors’ freedom to accept or reject the testimony in whole or in part).

93. *Id.* at 353.

94. *See, e.g., supra* notes 37–48 and accompanying text.

95. Compton, *supra* note 71, at 353 (“In some jurisdictions, the judge may be able to give even more explicit instructions regarding the neuroscience as a definitive explanation for human behavior and the problem of image captivation. As discussed above, it would be ideal for reviewing courts to allow more latitude for trial courts in instructing jurors on neuroscience or other forms of complex scientific evidence.”).

96. *See supra* notes 35–37 and accompanying text.

C. *Federal Rule of Evidence 403*

Some argue that limiting the undue effect of expert testimony is as simple as using a tool already prominent in the law of evidence—Federal Rule 403.<sup>97</sup> These scholars argue that Rule 403 could serve as one of the “most important tools . . . for managing scientific evidence.”<sup>98</sup> Because Rule 403 allows courts to limit out probative evidence if it is likely to result in unfair prejudice,<sup>99</sup> it seems almost perfectly suited to address some of the very concerns expressed by the Court in *Daubert*.<sup>100</sup> Apparently, following the *Daubert* decision other courts have also recognized the utility of the Rule 403 inquiry.<sup>101</sup>

But there is a problem with using Rule 403 to check for potential misuse of expert testimony: its discretionary application. Because Rule 403 ultimately relies—much like the application of *Daubert*—on a judge’s exercise of discretion in determining whether the prejudicial potential of an expert’s testimony outweighs its probative value, it fails to avoid *Daubert*’s pitfalls.<sup>102</sup> The Rule 403 approach still banks on the district court judge properly assessing the probative value of the evidence. The judge must essentially elucidate exactly how much a particular expert’s testimony can tell the jury about a particular element of the case—something that seems incredibly difficult if the judge is not sensitized to the potential weaknesses in the methodology underlying an expert’s conclusions. This approach also relies on the judge being able to determine whether the expert testimony is unfairly prejudicial. In the latter case, there is no assurance that the judge

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97. FAIGMAN ET AL., *supra* note 79, § 1–3.8; *see also* Harvey Brown, *Eight Gates for Expert Witnesses*, 36 HOUS. L. REV. 743, 880–81 (1999) (describing how Rule 403 allows judges to protect against the potentially misleading effects of expert testimony); Leslie A. Lunney, *Protecting Juries from Themselves: Restricting the Admission of Expert Testimony in Toxic Tort Cases*, 48 SMU L. REV. 103, 169–85 (1994) (using the example of toxic torts to argue that the “structured balancing test” of Rule 403 could be an appropriate vehicle for “determining the admissibility of questionable scientific evidence”).

98. David L. Faigman, *Admissibility of Neuroscientific Expert Testimony*, in A PRIMER ON CRIMINAL LAW AND NEUROSCIENCE 89, 108–09 (Stephen J. Morse & Adina L. Roskies eds., 2013).

99. *See* FED. R. EVID. 403 (“The court may exclude relevant evidence if its probative value is substantially outweighed by a danger of one or more of the following: unfair prejudice, confusing the issues, misleading the jury, undue delay, wasting time, or needlessly presenting cumulative evidence.”).

100. In fact, Judge Weinstein specifically addressed the utility of Rule 403 in this context. *See Daubert v. Merrell Dow Pharm. Inc.*, 509 U.S. 579, 595 (1993) (describing how Rule 403 can give judges a greater ability to control potentially prejudicial or misleading expert testimony).

101. *See, e.g.*, *United States v. Posado*, 57 F.3d 428, 436 (5th Cir. 1995) (remanding for the trial court to determine the admissibility of polygraph evidence based on consideration of *Daubert* and Rule 403); *United States v. Nektalov*, No. S203CR.828, 2004 WL 1469487, at \*6 (S.D.N.Y. June 30, 2004).

102. *See supra* Part II.

will be sensitized to all the ways that jury members may be unreasonably convinced by an expert's testimony or whether jury members will give unprecedented weight to a factor like academic credentials over something more directly tied to the expert's methods and basis for the testimony.

#### VI. A Potential Solution—The Methodology Questionnaire

The discussion above makes at least one thing clear—the reliability inquiry is a difficult one. Although judges have been provided a gamut of tools and tests to assess the reliability of expert testimony, it remains unclear that individual judges *should* be acting as gatekeepers for such evidence. Perhaps, instead, the credibility and reliability determination should—at least more often than not—be left to the province of the jury.<sup>103</sup> In order for this hope to become reality, however, the legal community would need to accomplish two goals: First, given the present role of judges as gatekeepers, the legal community would need to find a way to make those judges more comfortable with the prospect of leaving the expert-reliability determination in the hands of the jury. Second, and perhaps even more importantly, the legal community would need to give the jury sufficient information to determine whether a particular expert's methodology is sound, and consequently, whether that expert's conclusions are reliable.

I propose one way to accomplish these goals: a methodology questionnaire. The questionnaire would basically function as a disclosure requirement whenever a party seeks to introduce expert testimony. Before trial, attorneys and their respective experts would be required to fill out a methodology questionnaire prompting them to fully elucidate the basis of the expert's knowledge and expertise—e.g., their prior experience in the field, their credentials, the similarity of their prior work to the work they have done for the particular trial, etc.—and to flesh out the expert's methods—e.g., how they conducted their work, when and how the expert's discretion factored into their method, etc. This questionnaire could then be used at various times in trial to assist both judge and jury in assessing the reliability of an expert.

##### A. *The Methodology Questionnaire in Practice*

The methodology questionnaire I propose in this Note would be used during every stage of trial and would be at the disposal of both parties and the judge. Before trial, both the judge and the parties could use the questionnaire to guide their decisions and arguments, respectively, regarding admissibility of expert evidence. The questionnaire would ideally focus both the judge and the parties on the most important factor in

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103. After all, credibility assessment is one of the jury's primary functions.

determining reliability: the expert's methodology. In effect, this would help ensure that factors such as credentials would not be used as a proxy for a rigorous reliability inquiry. Similarly, during trial the questionnaire could once again serve as a guide to the parties when laying a foundation for a particular expert's testimony or in examining or cross-examining an expert witness. In turn, this would draw the jury's attention—and skepticism—to the question of methodology. Finally, after trial the jury would be given access to all relevant<sup>104</sup> methodology questionnaires so that the jurors would have all methodologically relevant evidence before them when making their ultimate determinations about which expert's testimony to credit as the most reliable and credible. Rather than disrupting the established system currently in place for assessing reliability of expert testimony, the methodology questionnaire would act as a supplement to the tools currently available to the legal community.

*B. The Benefits of a Methodology Questionnaire*

There are three primary ways that the methodology questionnaire would help supplement current reliability-determination tools. First, the questionnaire would be submitted to the judge and could serve as an aid in the judge's application of the *Daubert* inquiry, the application and utilization of Rule 403, and even in crafting jury instructions that caution jurors on the potential bias that can arise in the context of such testimony.<sup>105</sup> To start, the methodology questionnaire would standardize the information judges are given regarding an expert's methodology and could potentially result in greater uniformity regarding how judges use the discretionary tools they currently have at their disposal. Judges would have a clearer picture of exactly where the expert made discretionary choices in crafting a methodology.

Consider, for example, Judge Pollak's determination that "the subjective ingredients of opinion testimony presented by a competent fingerprint examiner" were more restricted than other types of admissible expert testimony in his reconsideration of the *Llera Plaza* case.<sup>106</sup> While it remains uncertain, there seems to be a greater likelihood that Judge Pollak would have come to the above conclusion in his first consideration of the fingerprint evidence had something—the attorney's argument, examination or cross-examination, briefing, or perhaps a methodology questionnaire—

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104. I use "relevant" here to denote that the jury would be given access to a methodology questionnaire for each expert witness who had testified during trial.

105. This last point would only be effected if, as Compton argues, judges were given greater discretion to craft jury instructions regarding expert testimony. See Compton, *supra* note 71, at 351 (asserting that reviewing courts should give trial judges broader discretion to provide cautionary jury instructions).

106. *United States v. Llera Plaza*, 188 F. Supp. 2d 549, 570–71 (E.D. Pa. 2002).

initially focused his attention on the fingerprint expert's methodology and the areas into which subjectivity had been injected. The questionnaire, while keeping with the flexible approach enunciated in *Daubert* and elaborated upon in *Kumho*, would thus merely give judges more information on which to base their reliability decisions and would, at least in some cases, give them greater confidence that a jury could hear the evidence without being unduly swayed.

Second, the questionnaire could guide attorneys in planning their questions when laying a foundation for expert testimony. Because the attorney and the expert witness would have to go through the questionnaire answering questions regarding the expert's knowledge, research, and the underlying methodology of that research, the questionnaire would sensitize the attorney to indicia of reliability that could help the judge, and ultimately the jury, make the best decision in any given case.

Third, as an added check, the methodology questionnaire would also be submitted to the jury as a part of the jury charge. This would ensure that any details left out, perhaps unwisely, by the district judge could be considered by the jury and would, in an ideal application, make certain that jury members continue their much touted practice of taking a skeptical, penetrating view of the evidence.<sup>107</sup>

It is important to reiterate here, however, that the methodology questionnaire would neither wholly replace any of the current tools used to assess expert reliability nor create absolute uniformity in the way that judges use those tools. Rather, the hope is that by providing a greater breadth of standardized evidence regarding an expert's methodology, judges would feel more comfortable letting the jury hear expert testimony in the first instance (i.e., not finding it unreliable and inadmissible for fear that jurors would misunderstand and misuse that testimony), and jurors would have sufficient information about the expert's methodology to make informed reliability and credibility determinations. In other words, the methodology questionnaire would both minimize the risk that a judge will preemptively (and perhaps unwisely) find an expert's testimony inadmissible and that a jury would be unduly swayed by an expert's testimony.

While the tools presently available<sup>108</sup> could do much to ensure that expert testimony is scrutinized more than it would be otherwise, there seems to be no negative to implementing an additional safety measure that would only bolster the comprehensiveness of the scrutiny presently applied to expert testimony. Even if the tools described above can eliminate some

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107. As opposed to blindly accepting expert testimony at its face value due to the "aura of expertise," Doyle, *supra* note 69, at 637-40, surrounding complicated scientific or technical knowledge and effectuated by giving such witnesses the title of "expert."

108. *See supra* Part V.

of the concerns with jury assessment of expert evidence, they cannot address every reason that jurors may be unduly influenced by expert testimony. As a result, it is prudent to build upon the tools we have to provide a requisite check on the reliability of experts without completely limiting out such testimony.<sup>109</sup>

### C. *Crafting the Methodology Questionnaire*

Creating a comprehensive and useful methodology questionnaire would undeniably be no easy task. The primary difficulty with this proposal becoming a reality is the prospect of allowing the legal community to determine what—in the context of scientific and technical expertise—indicates reliability and, on the other side of the coin, what signifies a need for greater skepticism and doubt. Consequently, molding such a tool would require input not only from those in the legal profession, but also academics familiar with jury decision making and experts knowledgeable about the intricacies of common types of expert testimony.<sup>110</sup> In assembling such a group of individuals, the legal community could get input on exactly what factors, at minimum, should be considered regarding expert testimony.

A good place to start would be to classify the type of testimony or expertise being offered before the court.<sup>111</sup> From this starting point, then, experts in each relevant field could help formulate a list of questions to help draw out strengths, weaknesses, and ambiguities in each taxonomic area. One question that should be addressed, no matter what the categorization of the testimony, is whether the methodology underlying the expert's testimony requires any subjective inquiry.<sup>112</sup> If this question were answered in the affirmative, the questionnaire could then ask the expert and lawyer to identify where such subjective determinations are made—whether that is in designing an experiment or model, or in drawing a conclusion from the underlying research. While the questionnaire could then ask the respondent to elaborate on how such subjective determinations are made—e.g., whether the expert is simply relying on his experience, other studies, etc.—it need

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109. See Doyle, *supra* note 69, at 637–40 (arguing that courts should use all the tools at their disposal to minimize the prejudicial risks stemming from the “aura of expertise” that surrounds experts who testify in court).

110. This would include both those knowledgeable about the broad strokes of expert testimony—i.e., its purpose in trial and the way it is used by jurors—and also scientists in fields where expert testimony is commonly used.

111. For a potential classification scheme, see Note, *Reliable Evaluation of Expert Testimony*, 116 HARV. L. REV. 2142, 2154–60 (2003).

112. *United States v. Llera Plaza*, 179 F. Supp. 2d 492, 2002 WL 27305, \*1–20 (E.D. Pa.) (depublished), *vacated and superseded by* 188 F. Supp. 2d 549 (E.D. Pa. 2002).

not necessarily require so much. The fact that the questionnaire would raise the issue could itself sensitize the parties involved to areas where the testimony should be subject to greater scrutiny.<sup>113</sup>

The questionnaire could also ask the expert and lawyer to identify the expert's background and experience in the relevant area. For example, questions in this section could include the following: (1) What level of education is typical of others in your field?; (2) What is your level of education?; (3) How many years of experience do you have in this field? (asking the respondent to pick from different year ranges); (4) How similar is the work you have done in the past to the analysis you have done in this case?

The hope is that such a questionnaire would prompt full disclosure of both strengths and weaknesses of an expert's testimony. Although there is some risk that lawyers would prompt their experts to minimize the subjective components of their respective methodologies, those concerns are not particularly worrisome. First, the methodology questionnaire proposed in this Note is not designed to replace other checks on reliability—e.g., laying a foundation, Rule 403, jury instructions, *Daubert*, and adversarial cross-examination. Therefore, a judge who recognizes an attorney's attempt to use the questionnaire as an advocacy tool could keep the expert's testimony out. Even if the judge were to not exercise his discretion to find the testimony inadmissible, however, opposing parties would still be able to use cross-examination to flesh out the details of the methodology disclosed in the questionnaire and to point out discrepancies between reality and the disclosure. Either way, the questionnaire would serve its intended purpose and focus the reliability inquiry on the soundness of an expert's methodology. Second, the questionnaire is itself designed to incentivize full disclosure. The more detailed and in-depth the information provided in the questionnaire, the more likely it is that a judge will feel comfortable erring on the side of admissibility. Since the judge knows that the jurors will ultimately see the questionnaire as well, he can be more certain that they will not be unduly swayed by the glamour of the "expert" title.

Moreover, the questions I discuss above obviously do not comprise a complete list of what would or should be considered, but hopefully they serve as a useful starting point. Creating a diverse group of individuals who are legally, scientifically, and technically minded would give our legal community the greatest probability of ensuring that such a questionnaire addresses the most salient issues in the reliability inquiry. Ultimately, the methodology questionnaire I propose here should give district judges a

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113. See generally, e.g., Jerry Kang et al., *Implicit Bias in the Courtroom*, 59 UCLA L. REV. 1124 (2012) (pointing out that individuals are more likely to self-correct for implicit biases when the propensity for such bias is brought to their attention).

better foundation on which they can base reliability determinations, make judges feel more comfortable exposing juries to technical, experience-based testimony, and would also potentially give reviewing courts a clearer way to assess whether the district judge has committed clear error.

### Conclusion

District court judges should not be left in a position where their primary source of guidance in assessing the reliability of an expert's testimony is the loose and nonexclusive factor test set forth in *Daubert* and ratified in *Kumho*. While the test undeniably gives judges the flexibility necessary to assess the inherently wide range of expert testimony that may be offered at trial, it fails to give those judges any guidance on where they should focus, and fails to ensure that they have the requisite information to make a reasoned reliability determination. Although the methodology questionnaire I propose would not solve every issue related to expert testimony, it would, in combination with other tools judges currently have at their disposal—e.g., the *Daubert* factors, Rule 403, and jury instructions—help them make more informed decisions on the topic. Not only would the questionnaire serve to bolster the front-end judicial inquiry and potentially make judges more willing to let that evidence get to the jury, but it would also help jurors evaluate expert testimony at the back end. When exposed to experts' own identification of the strengths, weaknesses, and ambiguities of their field, jurors may be more inclined to apply their typical level of skepticism, even to testimony that seems daunting due to its complex nature. Because there is no way to ensure absolute reliability and lack of unfair prejudice, the best the legal community can do is to give courts the greatest number of helpful tools to assist them in making the difficult and important decisions attendant to expert testimony.

—Marta M. Chlistunoff