

THE RELIABILITY OF THE ADVERSARIAL SYSTEM TO ASSESS THE SCIENTIFIC VALIDITY OF FORENSIC EVIDENCE

Andrew D. Goldsmith*

INTRODUCTION

Last fall, the Advisory Committee on Evidence Rules began to consider whether to amend Federal Rule of Evidence 702 to create a separate and additional standard for forensic science expert witness testimony. Proponents of these amendments contend that: (1) judges are failing to apply Rule 702 and U.S. Supreme Court precedent for forensic expert testimony,¹ and (2) defense attorneys are incapable of adequately establishing the potential limitations of forensic science testimony through cross-examination.² They further claim that this causes juries to give inappropriate weight to forensic expert testimony. Although any proposed revision of Rule 702 is in a preliminary stage, amendment proponents

* Associate Deputy Attorney General and National Criminal Discovery Coordinator, U.S. Department of Justice. Mr. Goldsmith began his career in the Manhattan District Attorney's Office and has also served as an Assistant U.S. Attorney in the District of New Jersey. Mr. Goldsmith wishes to thank Kira Antell, Senior Counsel in the U.S. Department of Justice's Office of Legal Policy, for her invaluable assistance in the preparation of this Article.

This Article was prepared as a companion to the *Fordham Law Review* Reed Symposium on Forensic Expert Testimony, *Daubert*, and Rule 702, held on October 27, 2017, at Boston College School of Law. The Symposium took place under the sponsorship of the Judicial Conference Advisory Committee on Evidence Rules. For an overview of the Symposium, see Daniel J. Capra, *Foreword: Symposium on Forensic Testimony, Daubert, and Rule 702*, 86 FORDHAM L. REV. 1459 (2018).

1. See, e.g., David E. Bernstein, *The Misbegotten Judicial Resistance to the Daubert Revolution*, 89 NOTRE DAME L. REV. 27, 28–29 (2013) (“There has, however, been an extraordinary undercurrent of rebellion by a minority of federal judges These judges ignore the text of Rule 702, and instead rely on lenient precedents that predate (and conflict with) not only the text of amended Rule 702, but also with some or all of the *Daubert* trilogy.”); M. Chris Fabricant & Tucker Carrington, *The Shifted Paradigm: Forensic Science's Overdue Evolution from Magic to Law*, 4 VA. J. CRIM. L. 1, 37 (2016) (“Courts fail to engage in a meaningful review of the proffered evidence through either a *Frye* or *Daubert* hearing.”); Jonathan J. Koehler, *An Empirical Research Agenda for the Forensic Sciences*, 106 J. CRIM. L. & CRIMINOLOGY 1, 33 (2016) (“It is not enough for trial judges to hold occasional *Daubert* hearings to assess the reliability of proffered forensic science evidence if those judges continue to rely on the unsupported claims of forensic science supporters.”).

2. See Erin Murphy, *No Room for Error: Clear-Eyed Justice in Forensic Science Oversight*, 130 HARV. L. REV. 145, 149 (2017) (“Indigent defense lawyers are notoriously overworked and underpaid, and many lack basic competencies, much less sophisticated scientific expertise.”).

generally want a special rule targeted at forensic expert testimony that would make its admissibility more difficult.

While the Department of Justice (DOJ) shares the proponents' goal that conclusions offered by forensics experts should stay within the boundaries of scientific knowledge, it disagrees with the assertion that judges and federal defense attorneys are shirking their responsibilities in this area. The DOJ believes that proposals to amend Rule 702 rest on flawed scientific assumptions, incorrect opinions about the federal judiciary, and dubious statements about the quality of the criminal defense bar. Adoption of any such proposal would significantly undermine the pursuit of justice by causing courts to exclude relevant, highly probative, and reliable evidence that can assist finders of fact in their search for the truth.

I. FORENSIC SCIENCE BACKGROUND

Common forensic disciplines include molecular biology (such as DNA), chemistry, trace evidence examination (of, for example, hairs and fibers, paints and polymers, glass, and soil), latent fingerprint examination, firearm and toolmark examination, handwriting analysis, fire and explosive examinations, forensic toxicology, and digital evidence.³ Experts conduct these analyses and report results that are used by investigators and attorneys to determine whether a suspect is responsible for a crime. When offered into evidence, forensic results help juries determine whether the prosecution has met its burden of proof. With some forensic disciplines, such as DNA, the results can be reported quantitatively with statistics. Other times, such as with handwriting evidence, an examiner can only indicate his or her opinion in a qualitative manner.

II. THE GATEKEEPING FUNCTION UNDER RULE 702 IS INTENDED TO BE FLEXIBLE

A bedrock principle of evidence law is that relevant evidence—evidence that has any tendency to make a fact or consequence more or less probable than it would be without the evidence—is generally admissible.⁴ The Supreme Court has stated that where an expert's factual basis, data, principles, methods, or their application are called into question, the trial judge must determine whether the testimony has “a reliable basis in the knowledge and experience of [the relevant] discipline.”⁵ In *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,⁶ the Supreme Court offered a number of observations about the types of things trial courts might consider when determining the admissibility of scientific evidence. These observations have become known as the “*Daubert* factors.” These factors consider

3. See MATTHEW R. DUROSE ET AL., U.S. DEP'T OF JUSTICE, PUBLICLY FUNDED FORENSIC CRIME LABORATORIES: RESOURCES AND SERVICES, 2014, at 2 tbl.1 (Nov. 2016), <https://www.bjs.gov/content/pub/pdf/pffclrs14.pdf> [<https://perma.cc/XJ89-SZGZ>].

4. FED. R. EVID. 401, 402.

5. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 138 (1999) (citing *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 578, 592 (1993)).

6. 509 U.S. 578 (1993).

whether the methodology or technique in question: (1) can be or has been tested, (2) has been subject to peer review and publication, (3) has a known or potential rate of error, (4) is subject to standards, and (5) has general acceptance in the scientific community.⁷

Notably, neither Supreme Court decisions nor the Federal Rules of Evidence (including its accompanying Advisory Committee Notes) require any rigid application of these factors to assess scientific reliability. To the contrary, the various and nonexclusive *Daubert* factors to be considered by trial courts in determining admissibility are to be applied flexibly. The Court has also instructed that “a trial court *may* consider one or more of the more specific factors that *Daubert* mentioned when doing so will help determine that testimony’s reliability.”⁸ In addition, the Court has emphasized 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.⁹

Rule 702 was amended in 2000 to embody the principles set out in *Daubert* and its progeny, including its flexibility as to the factors to consider in determining whether to admit expert testimony. The text of Rule 702 does not rigidly require a specific assessment in the gatekeeping function and the Committee Notes accompanying the rule make this clear.¹⁰ This reflects the Court’s instruction that “[t]he inquiry envisioned by Rule 702 is, we emphasize, a flexible one. Its overarching subject is the scientific validity,” which the Court defined as “the evidentiary relevance and reliability [] of the principles that underlie a proposed submission.”¹¹ As the Court summarized at the end of the *Daubert* opinion, “the Rules of Evidence—especially Rule 702—do assign to the trial judge the task of ensuring that an expert’s testimony both rests on a reliable foundation and is relevant to the task at hand. Pertinent evidence based on scientifically valid principles will satisfy those demands.”¹²

The proposed amendments to Rule 702 that would replace the flexible gatekeeping function with a more rigid and prescriptive admissibility standard are inconsistent with Supreme Court jurisprudence, the Federal Rules of Evidence, and the Committee Notes accompanying Rule 702. They would also be inconsistent with the intent of Congress, which reviewed and approved Rule 702 and its Committee Notes.

7. *Id.* at 593–94.

8. *Kumho Tire*, 526 U.S. at 141.

9. *Id.* at 141–42.

10. *See, e.g.*, FED. R. EVID. 702 advisory committee’s note to 2000 amendment (“*Daubert* set forth a non-exclusive checklist for trial courts to use in assessing the reliability of scientific expert testimony *Daubert* itself emphasized that the factors were neither exclusive nor dispositive. Other cases have recognized that not all of the specific *Daubert* factors can apply to every type of expert testimony.”).

11. *Daubert*, 509 U.S. at 594–95.

12. *Id.* at 597.

III. RULE 702 IS WORKING AS INTENDED AND AMENDMENTS ARE UNNECESSARY

Amendments to the Federal Rules of Evidence are not appropriate without a genuine showing of need.¹³ The former chair of the Advisory Committee on Evidence, Federal District Judge Fern Smith of the Northern District of California, explained that the Committee takes suggestions for amendment “very seriously” where they are predicated on “empirical evidence suggesting that a particular rule of evidence isn’t working, that there are an increasing number of reversals based on a particular rule of evidence, that there is a serious conflict among the circuits about the way a rule of evidence is viewed.”¹⁴ Proponents of amending Rule 702 have failed to demonstrate that there are serious issues of concern regarding its application by trial courts.

As noted, proposals to amend Rule 702 are still under development and it is not clear that there is support from Advisory Committee members to amend the rule. Nevertheless, the Reporter to the Advisory Committee on Evidence circulated, for discussion, two options to amend Rule 702 in cases with forensic evidence.¹⁵ The first option would add an extra section to Rule 702 to govern forensic expert testimony and would develop several additional requirements for that type of testimony.¹⁶ The second option would create a separate standalone rule for forensic evidence experts.¹⁷ Both are predicated on a belief that judges are not properly applying *Daubert* in cases with forensic evidence and have the purpose of limiting introduction of certain types of forensic evidence.

A. *The Federal Judiciary Is Appropriately Applying Rule 702*

While some observers have made vague claims that federal judges are not correctly applying Rule 702, no substantial evidence has been offered to support these allegations.¹⁸ In addition, very few federal criminal appeals

13. See, e.g., Symposium, *The Politics of [Evidence] Rulemaking*, 53 HASTINGS L.J. 733, 739 (2002).

14. *Id.*

15. See *Background Information on the Recent Challenges to the Reliability of Forensic Evidence and the Idea for this Symposium*, in ADVISORY COMMITTEE ON RULES OF EVIDENCE OCTOBER 2017 AGENDA BOOK 1, 379–83 (2017), http://www.uscourts.gov/sites/default/files/a3_0.pdf [<https://perma.cc/R6FB-APZB>].

16. *Id.* at 380.

17. *Id.* at 381.

18. *Id.* at 379 (“[T]he Committee had been receiving suggestions from some academics that Rule 702 was being applied incorrectly.”). Nor is there an allegation that there are a number of wrongful convictions associated with wrongly-admitted forensic evidence in federal courts. The National Registry of Exonerations (“Registry”) lists approximately 2200 individuals who were convicted of crimes in the United States between 1989 and the present and subsequently exonerated. See *Summary View*, NAT’L REGISTRY EXONERATIONS, <https://www.law.umich.edu/special/exoneration/Pages/browse.aspx> [<https://perma.cc/FLF4-U4KD>] (last visited Feb. 26, 2018). While the Registry is not complete or certain (i.e. there may be exonerations not included, not all exonerees were found to be factually innocent, and the researchers findings are not uncontested), it reflects the most comprehensive list of

cite improperly admitted forensic evidence as a reason for reversal.¹⁹ And a search of recent district court case law reveals dozens of thoughtfully-considered opinions in which *Daubert* hearings were held to determine the admission of new and novel techniques.²⁰

B. The Adversarial System Works

The DOJ believes that the adversarial system—where both sides are adequately prepared, have received the discovery to which they are entitled, and call their own experts and cross-examine their adversaries’ witnesses—is the best way to determine the truth.

Federal prosecutors go further than required by Rule 16 of the Federal Rules of Criminal Procedure when providing forensic-related discovery. In January 2017, the Deputy Attorney General’s Office issued *Supplemental Guidance for Prosecutors Regarding Criminal Discovery Involving Forensic Evidence and Experts* (“*Supplemental Guidance*”).²¹ The *Supplemental Guidance* specifically describes the four steps that prosecutors should take to meet their disclosure obligations for forensic evidence under the federal rules,²² Supreme Court precedent,²³ and statutory obligations.²⁴ In 2017, these obligations were part of mandatory criminal discovery training for all 6000 federal prosecutors. Based on the information provided in discovery for forensics, defense counsel can decide whether to seek *Daubert* hearings, consider pursuing their own expert witnesses, and better prepare their defense in general.

The DOJ firmly supports the fundamental Wigmore axiom that cross-examination is “beyond any doubt the greatest legal engine ever invented for the discovery of truth.”²⁵ The adversarial system is based on the

exonerations. The Registry lists 521 cases in which a researcher determined that “false or misleading forensic evidence” played a part in the wrongful conviction. *Id.* Of those 521 convictions, six convictions were in federal court. *Id.* Three of the six federal convictions occurred in conjunction with researchers’ determination of “inadequate legal defense.” *Id.* The remaining three convictions occurred in conjunction with a researcher’s determination of a “perjury or false accusation.” *Id.* Although this does not prove that no wrongful convictions have occurred in federal court due to improperly-admitted forensic evidence, it does put the issue in context.

19. See D. Michael Risinger, *Navigating Expert Reliability: Are Criminal Standards of Certainty Being Left on the Dock?*, 64 ALB. L. REV. 99, 104–09 (2000) (reviewing appellate case law).

20. See, e.g., *United States v. Tuzman*, No. 15 Cr. 536 (PGG), 2017 WL 6527261, at *9–19 (S.D.N.Y. Dec. 18, 2017) (considering and excluding defense expert witness who used non-validated methods after a *Daubert* hearing); *United States v. Williams*, No. 3:13-CR-00764-WHO-1, 2017 WL 3498694, at *1 (N.D. Cal. Aug. 15, 2017) (conducting a two-day *Daubert* hearing on DNA mixtures and excluding some evidence).

21. Memorandum from Sally Q. Yates, Deputy Att’y Gen., to Department Prosecutors, Dep’t Forensic Sci. Pers. (Jan. 5, 2017), <https://www.justice.gov/archives/ncfs/page/file/930411/download> [https://perma.cc/4FWK-WKRY].

22. FED. R. CRIM. P. 16.

23. See *Giglio v. United States*, 405 U.S. 150 (1972); *Brady v. Maryland*, 373 U.S. 83 (1963).

24. Jencks Act, 18 U.S.C. § 3500 (2012).

25. JOHN HENRY WIGMORE, *WIGMORE ON EVIDENCE: EVIDENCE IN TRIALS AT COMMON LAW* § 1367 (4th ed. 2018).

principle that the truth emerges when opposing parties have the opportunity to call their own witnesses, confront opposing experts during cross-examination, and introduce competing evidence. The American legal system does not require that evidence be indisputable to be admissible. Rather, it asks that judges review the evidence, that juries evaluate the evidence, and then decide whether the government has met its burden of proof.

The proposed amendments to Rule 702 would likely lead to the exclusion of evidence and dilute the importance of cross-examination. This ignores the adversarial nature of the criminal justice system. Whether or not any type of scientific evidence has a well-grounded empirical basis, cross-examination is key. As Justice Blackmun wrote in *Daubert*, “[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.”²⁶

The DOJ also disagrees with the notion that federally-funded public defenders, and private criminal defense attorneys,²⁷ are not capable of adequately representing their clients and that the solution is to reduce the requirements of defense counsel. Professor Erin Murphy, law professor and former federal public defender, has written that the adversarial process does not work in cases involving forensic science because of the quality of defense counsel.²⁸ While we respect Professor Murphy’s point of view about her colleagues in the federal system, this has not been our experience.²⁹ Prosecutors and defense attorneys have a professional obligation to learn about the evidence offered by an opposing expert and its

26. *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 596 (1993) (citing *Rock v. Arkansas*, 483 U.S. 44, 61 (1987)).

27. Criminal Justice Act attorneys are appointed and paid for by the court to represent indigent criminal defendants consistent with the requirements of the Sixth Amendment. *See* 18 U.S.C. § 3006A.

28. Murphy, *supra* note 2, at 149 (“Indigent defense lawyers are notoriously overworked and underpaid, and many lack basic competencies, much less sophisticated scientific expertise.”).

29. The DOJ recognizes that indigent defense may be a more significant issue in non-federal courts. It is generally acknowledged that federal defenders are better compensated and have lower caseloads than most state and local public defenders. *See Federal Versus State Work*, UNIV. MICH. LAW, <https://www.law.umich.edu/mdefenders/students/Different-Types-of-Indigent-Defense/Pages/Federal-versus-State-Work.aspx> [<https://perma.cc/F4GP-6CCX>] (“Federal defenders are paid more on average than state-level defenders . . . [and] [f]ederal defender caseloads also tend to be smaller than state defender caseloads That is not to say that federal defenders don’t have heavy caseloads, because they do. But they are more manageable than those in many state offices.”) (last visited Feb. 26, 2018). At the same time, even in state and local jurisdictions, research has not established that the quality of legal defense is associated with whether it is provided by public defenders or private attorneys. Compare Richard D. Hartley et al., *Do You Get What You Pay For?: Type of Counsel and Its Effect on Criminal Court Outcomes*, 38 J. CRIM. JUST. 1063 (2010), with Michael A. Roach, *Indigent Defense Counsel, Attorney Quality, and Defendant Outcomes*, 16 AM. LAW & ECON. REV. 577 (2014) (finding that public defenders are sometimes associated with better outcomes than assigned defense attorneys).

application to the case at hand.³⁰ The DOJ does not agree that the federal defense bar lacks the requisite competence.³¹ Proponents of amending Rule 702 claim that the adversarial system in federal court does not work, but rather than working to address the perceived deficiencies of defense counsel, they call for radical change.

IV. THE DOJ IS WORKING TO IMPROVE THE ADVERSARIAL SYSTEM

The DOJ remains committed to strengthening forensic science and its courtroom use by all stakeholders. The DOJ is advancing forensic research and development so that evidence can be compared to a known source with increasingly sensitive and precise means. The DOJ is also working to ensure that the conclusions offered by its forensic experts in reports and testimony do not exceed the limitations of the method or discipline in question.

The DOJ has also devoted substantial funding to forensic science research and development. The National Institute of Justice (NIJ), the Federal Bureau of Investigation, and the DOJ's other forensic laboratories have made significant efforts to engage in and support relevant research. NIJ also supports fellowships to improve the collaboration between researchers and practitioners. In addition, the DOJ, in partnership with the National Institute of Standards and Technology and other institutions, is developing a comprehensive research agenda to continually advance the state of forensic knowledge.

In August 2017, Deputy Attorney General Rod J. Rosenstein announced that the DOJ would continue with a project to develop guidance documents governing the DOJ's forensic testimony and reports.³² These guidance documents, Uniform Language for Testimony and Reports, are designed to clarify the acceptable range of scientific conclusions that may be offered in laboratory reports and testimony.³³ The DOJ is also developing a program

30. *See, e.g.*, CRIMINAL JUSTICE STANDARDS: DEFENSE FUNCTION § 4-4.1 (AM. BAR ASS'N 2015), https://www.americanbar.org/groups/criminal_justice/standards/DefenseFunctionFourthEdition.html#4-1.1 [<https://perma.cc/9LMV-VJUQ>] (“Counsel’s investigation should also include evaluation of the prosecution’s evidence (including possible re-testing or re-evaluation of physical, forensic, and expert evidence) and consideration of inconsistencies, potential avenues of impeachment of prosecution witnesses, and other possible suspects and alternative theories that the evidence may raise.”).

31. *See* Letter from Eric A. Vos, Chief Fed. Pub. Def., Dist. of P.R., to Judge Kathleen Cardone, Chair, Ad Hoc Comm. to Review the CJA (Jan. 1, 2016), <https://cjastudy.fd.org/sites/default/files/hearing-archives/miami-florida/pdf/ericvosmiamiwritten-testimony.pdf> [<https://perma.cc/38EE-EYJT>] (agreeing that funding is a challenge but stating “there may be no doubt that [Federal Defender Officers] are excellent stewards of [Office of Defender Services] funding and remain frugal while delivering the gold standard of federal criminal defense”).

32. *Deputy Attorney General Rod Rosenstein Delivers Remarks at the International Association for Identification Annual Conference*, U.S. DEP’T JUST. (Aug. 7, 2017), <https://www.justice.gov/opa/speech/deputy-attorney-general-rod-rosenstein-delivers-remarks-international-association> [<https://perma.cc/H6F4-6JK4>].

33. *Id.*

to continually monitor the accuracy of courtroom testimony provided by DOJ forensic examiners. A new DOJ-wide program that monitors testimony will ensure that examiners provide testimony consistent with scientific principles. Implementation of this monitoring program will begin when the Uniform Language program is finalized. These and other ongoing initiatives demonstrate the DOJ's long-term commitment to continually strengthen forensic science through policy, practice, and research.

CONCLUSION

The DOJ depends on reliable and accurate forensic analysis to identify suspects and clear the innocent. The DOJ strives to set the global standard for excellence in forensic science and to advance the practice and use of forensic science by the broader forensic community. The DOJ is dedicated to the pursuit of justice and is keenly aware that the use of unreliable evidence may lead to more crime, not less.

Proponents of amending Rule 702 argue that judges are failing in their gatekeeping function and that the federal defense bar is incapable of adequately representing their clients. Their solution is to change Rule 702 to make it more difficult to admit forensic evidence. The DOJ is concerned that changes to Rule 702 would significantly undermine the pursuit of justice by leading courts to exclude relevant and highly probative evidence. The DOJ believes that the adversarial system works and is actively working to improve it for all stakeholders.