QUESTIONING THE ADMISSIBILITY OF NONSCIENTIFIC TESTIMONY AFTER DAUBERT: THE NEED FOR INCREASED JUDICIAL GATEKEEPING TO ENSURE THE RELIABILITY OF ALL EXPERT TESTIMONY

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Abstract

This article examines the difficulty of finding a proper standard for evaluating non-scientific expert testimony. It analyzes the legal standard for the admission of expert testimony as set out in the Federal Rule of Evidence and the Daubert case. It reviews a split in courts as to how to apply these standards to non-scientific expert testimony. It ends with some proposals for the application of Daubert to non-scientific expert testimony and suggests an amendment to the Federal Rules of evidence.

KEYWORDS: expert testimony, Daubert
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Introduction

How can the jury judge between two statements each founded upon an experience confessedly foreign in kind to their own? It is just because they are incompetent for such a task that the expert is necessary at all.1

The use of experts in both criminal and civil trials is widespread,2 and has grown considerably in recent years.3 Because experts have specialized knowledge and experience, judges and juries rely upon them to clarify and illuminate complex issues that arise in trials.4 Indeed, a jury's ability to come to a reasoned judgment often hinges on the testimony of an expert who, in passing on general truths gathered from specialized experience, enables the jury to fully comprehend the facts of a case.5 Problems arise, however, when juries must construe contradictory testimony from two people who testify before them as "experts" on the same subject mat-

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5. See Hand, supra note 1, at 54.
At the crux of this issue is the importance of reliable expert testimony.

The increased reliance on expert testimony in trials has led to a controversy among judges and litigators regarding the admissibility of specialized, but nonscientific, expert testimony, and the appropriate standard for ensuring reliability. In 1993, the United States Supreme Court clarified the admissibility of scientific evidence in Daubert v. Merrell Dow Pharmaceuticals, Inc., and resolved a split among the federal circuits by creating guidelines for applying the Federal Rules of Evidence to scientific expert testimony.

Scientific testimony, however, is only one type of expert testimony proffered, and by addressing only this type of testimony, the Supreme Court left open significant questions regarding the admissibility of testimony that is not "scientific." While the recent...
fear of "junk science"\textsuperscript{15} in the courtroom is primarily associated with scientific testimony, substantial risks are created by limiting the focus of reliable testimony in trials to scientific inquiries.\textsuperscript{16} Evidentiary problems are exacerbated when courts are faced with the elusive concept of nonscientific expert testimony.\textsuperscript{17}

This Note examines the impact of the \textit{Daubert} decision on nonscientific testimony and proposes a standard for determining the admissibility of such evidence. Part I describes the various legal standards applied to determine the admissibility of scientific testimony, including the common law test,\textsuperscript{18} Federal Rule of Evidence 702\textsuperscript{19} ("Rule 702"), and the \textit{Daubert} factors.\textsuperscript{20} Part II illustrates the split in the federal circuits regarding the application of \textit{Daubert} to nonscientific testimony and shows how courts, in recent years, have grappled to ensure the reliability of such testimony. Part III advocates the need to scrutinize the reliability of nonscientific testimony and analyzes proposals for applying \textit{Daubert} to nonscientific testimony, extending \textit{Daubert}'s reliability requirement, and amending Rule 702. This Note concludes by proposing an amendment to Rule 702 that provides courts with the necessary framework to incorporate a reliability requirement into the decision whether to admit nonscientific expert testimony.


\textsuperscript{16}See Edward J. Imwinkelried, \textit{The Next Step After Daubert: Developing A Similarly Epistemological Approach To Ensuring The Reliability Of Nonscientific Expert Testimony}, 15 \textit{CARDOZO L. REV.} 2271, 2273 (1994) (stating that there are doubts about the reliability of nonscientific expert testimony which may prove to be less soluble and more troublesome than the doubts about "junk science"); Laser, supra note 14, at 1379; see also \textit{Daubert}, 509 U.S. at 600 (Rehnquist, C.J., concurring in part and dissenting in part) (expressing concern about how courts would apply \textit{Daubert} when faced with expert testimony based on nonscientific knowledge).

\textsuperscript{17}See Berry v. City of Detroit, 25 F.3d 1342, 1348 (6th Cir. 1993).

\textsuperscript{18}See Frye v. United States, 293 F. 1013 (D.C. Cir. 1923).

\textsuperscript{19}FED R. EVID. 702; see infra notes 26-34 and accompanying text.

\textsuperscript{20}Daubert, 509 U.S. at 600.
I. Background

A. The Frye Common Law Approach

Frye v. United States\textsuperscript{21} established the common law standard for determining the admissibility of scientific expert testimony.\textsuperscript{22} Frye set forth a framework for trial judges, which became known as the “general acceptance” test,\textsuperscript{23} whereby scientific testimony was not admissible unless the methodology used by the expert was accepted in the general community of scientists.\textsuperscript{24} Frye provided a two-step analysis for evaluating scientific testimony in which trial judges: (i) identified the scientific field of the testimony; and, (ii) determined whether the principle was generally accepted by scientists in the same field.\textsuperscript{25}

Under Frye, judges did not examine the reliability of such testimony, but rather they looked to the general community of scientists to see if there was substantial agreement that the methodology the expert employed was sound.\textsuperscript{26} Thus, a judge was required to understand only enough about a scientific principle to gauge whether it was generally accepted within the relevant community.\textsuperscript{27} The Frye test was overly conservative, however, because expert testimony based upon a newly developed methodology was rendered

\textsuperscript{21} 293 F. 1013 (D.C. Cir. 1923).
\textsuperscript{22} See Daubert, 509 U.S. at 585 (“In the 70 years since its formulation in the Frye case, the ‘general acceptance’ test has been the dominant standard for determining the admissibility of novel scientific evidence.”). Frye involved a murder trial in which the defendant sought to admit the result of a systolic blood pressure deception test as exculpatory evidence. See Frye, 293 F. at 1013. The defense’s theory was that “conscious deception or falsehood, concealment of facts, or guilt of crime, accompanied by fear of detection when the person is under examination, raises the systolic blood pressure.” Id. The scientist who conducted the test was not allowed to testify nor was he allowed to administer the test to Frye in front of the jury. See id.
\textsuperscript{23} Id. at 1014; see also Daubert, 509 U.S. at 585-86 (discussing the Frye test).
\textsuperscript{24} See Frye, 293 F. at 1013. Before Frye, the general rule with regard to expert testimony was that testimony offered by a qualified witness and which was relevant to an issue was admissible and courts left the consideration of the weight of the testimony to the jury. See, e.g., Carbonero Reading Co. v. Munson, 122 F. 753, 755 (1st Cir. 1903); Golden Reward Min. Co. v. Buxton Min. Co. 97 F. 413, 416 (8th Cir. 1899); St. Louis, I.M. & S. Ry. v. Edwards, 78 F. 745, 746 (8th Cir. 1897); Edward P. Allis Co. v. Columbia Mill Co. 65 F. 52, 57 (8th Cir. 1894).
\textsuperscript{26} See Frye, 293 F. at 1014.
\textsuperscript{27} See Kesan, supra note 3, at 1991 (asserting that the Frye test survived for over half a century because it was “intrinsically well-suited” to the judiciary).
inadmissible if it was not yet generally accepted. Frye also was criticized because it did not clearly define "general acceptance," causing courts to experience difficulty in ascertaining scientific validity.

B. Federal Rule of Evidence 702 and Alternative Tests

The application of Frye came into question after the enactment of Federal Rule of Evidence 702 in 1975, which allows judges to admit the testimony of a qualified expert if the testimony helps the jury understand the evidence. Rule 702 applies to expert testimony requiring technical knowledge, specialized knowledge, and scientific knowledge. Technical knowledge is knowledge of anything "pertaining to or connected with the mechanical or industrial arts and the applied sciences." Specialized knowledge refers to any knowledge focused on a particular area of study, profession, or experience. Examples of the myriad of experts who base testimony on technical and specialized knowledge include police officers, accountants, bankers, lawyers, economists.

28. See Frye, 293 F. at 1014; Kesan, supra note 3, at 2017-18.

29. See United States v. Downing, 753 F.2d 1224, 1233 (3d Cir. 1985) (maintaining that Frye was inconsistent with Rule 702). Frye did not explain how courts were to determine "general acceptance." See Kesan, supra note 3, at 1991.

30. Fed. R. Evid. 702; see Daubert 509 U.S. at 587 n.5. (citing the circuit split over whether Rule 702 superseded Frye); see also supra note 8 and accompanying text (discussing Rule 702).

31. Fed. R. Evid. 702. According to Rule 702, an expert witness is qualified as an expert by "knowledge, skill, experience, training, or education." And, as such, the expert may give testimony containing "scientific, technical, or other specialized knowledge" which would be helpful to the trier of fact. Id.

32. See id.


34. See id.

35. See Berry v. City of Detroit, 25 F.3d 1342 (6th Cir. 1994).

36. See Frymire-Brinati v. KPMG Peat Marwick, 2 F.3d 183 (7th Cir. 1993).
farmers,\textsuperscript{40} mechanics,\textsuperscript{41} engineers,\textsuperscript{42} social psychologists,\textsuperscript{43} experts in drug trafficking,\textsuperscript{44} and real estate appraisers.\textsuperscript{45}

Scientific knowledge differs from technical and specialized knowledge because it is based on the concept of "Newtonian Science,"\textsuperscript{46} which refers to the process of formulating a hypothesis, and then engaging in experimentation or observation to verify or falsify that hypothesis.\textsuperscript{47} Rule 702's inclusion of scientific knowledge caused a split among the federal circuits regarding the appropriate standard to be applied for determining the admissibility of scientific testimony.\textsuperscript{48} Partly because the rule and its legislative history did not mention the "general acceptance test,"\textsuperscript{49} after 1975, some courts concluded that Rule 702 superseded \textit{Frye}.\textsuperscript{50} Other courts, however, maintained that "general acceptance" was still a requirement for the admissibility of scientific testimony.\textsuperscript{51}

\textsuperscript{37} See Den Norske Bank AS v. First Nat'l Bank of Boston, 75 F.3d 49 (1st Cir. 1996).
\textsuperscript{38} See United States v. Sinclair, 74 F.3d 753 (7th Cir. 1996).
\textsuperscript{39} See Marcel v. Placid Oil Co., 11 F.3d 563 (5th Cir. 1994).
\textsuperscript{40} See Michael H. Graham, \textit{Handbook of Federal Evidence} \S 702.1, at 614 (3d ed. 1991).
\textsuperscript{41} See Carmichael v. Samyang Tire, Inc., 131 F.3d 1433 (11th Cir. 1997).
\textsuperscript{42} See Roback v. V.I.P. Transp. Inc., 90 F.3d 1207 (7th Cir. 1996).
\textsuperscript{44} See United States v. Cordoba, 104 F.3d 225 (9th Cir. 1997).
\textsuperscript{45} See F.D.I.C. v. Suni Assoc., 80 F.3d 681 (2d Cir. 1996).
\textsuperscript{46} See Imwinkelried, \textit{supra} note 16, at 2276.
\textsuperscript{47} See Daubert v. Merrell Dow Pharm., 509 U.S. 579, 589 (1993). Justice Blackmun referred to Newtonian Science in phrasing the admissibility standard in \textit{Daubert}, stating that a proposition supported by appropriate scientific methodology is considered scientific knowledge. \textit{See id.} How conclusions were reached rather than what the conclusions stated was the relevant inquiry. "The focus, of course, must solely be on principles and methodology, not on the conclusions that they generate." \textit{Id.} at 595; \textit{see also} Alburey Castell, \textit{An Introduction to Modern Philosophy} 170, 197 (2d ed. 1963).
\textsuperscript{48} Compare United States v. Downing, 753 F.2d 1224,1234 (3d Cir. 1985) (\textit{Frye} is inconsistent with Rule 702) \textit{with} Christophersen v. Allied-Signal Corp., 939 F.2d 1106, 1111 (5th Cir. 1991) (\textit{Frye} and Rule 702 coexist). \textit{See supra} note 11 and accompanying text.
\textsuperscript{49} See Fed. R. Evid. 702; Gianelli, \textit{supra} note 25, at 1999 (noting the omission of \textit{Frye} from advisory committee notes, congressional committee reports and Federal Rules Hearings).
\textsuperscript{50} See, e.g., United States v. Downing, 753 F.2d 1224, 1234 (3d Cir. 1985) (finding that the \textit{Frye} test was inconsistent with Rule 702's broad scope of relevance); United States v. Williams, 583 F.2d 1194 (2d Cir. 1978) (stating that the Federal Rules of Evidence superseded \textit{Frye}).
\textsuperscript{51} See United States v. Christophe, 883 F.2d 1296, 1299 (9th Cir. 1987) (discussing circuit cases requiring "general acceptance"); Douglass v. Hustler Magazine, Inc., 769 F.2d 1128, 1142 (7th Cir. 1985) (stating that Rule 702 applies broadly).
Several courts, in rejecting Frye, developed alternative admissibility standards such as the "substantial acceptance" test. This test diverged from Frye because it allowed testimony based upon a scientific principle or technique to be admitted if it was accepted by a substantial minority of experts in that area.

Courts and commentators also developed multi-factor reliability tests. Such tests required the court to consider the following factors: the potential rate of error; the existence of standards; how clearly the technique and its results could be explained; any analogous relationship with other scientific techniques usually admitted into evidence; falsifiable characteristics; the experts' qualifications; general acceptance in the scientific community; the novelty of the technique or principle; and the extent to which the technique or principle relied on the subjective interpretation of the expert. These tests suggested that trial judges play a more significant role in evaluating the reliability of the testimony offered in their courtrooms. Moreover, in providing a "gatekeeping" role for judges, these tests were precursors to the Supreme Court's multi-factor reliability standard presented in Daubert.

52. See Kesan, supra note 3, at 1992.
53. United States v. Williams, 443 F. Supp. 269, 273 (S.D.N.Y. 1977), aff'd, 583 F. 2d 1194 (2d Cir. 1978). The substantial acceptance test required that the scientific principle advanced be accepted by a "substantial section of the scientific community." Id. at 273.
54. See id. This approach, while adhering to the notion that acceptance within the community is the key indicator of reliability, was more liberal than the "general acceptance" test because it allowed more testimony to be heard in court. See Kesan, supra note 3, at 1992.
56. See McCormick, supra note 55 at 911; see also United States v. Williams, 583 F.2d 1194, 1198-99 (2d Cir. 1978).
58. See McCormick, supra note 55, at 911.
59. See id.
60. See Weinstein & Berger, supra note 55, at 702-18.
61. See id.
62. See id.
63. See id.
65. See Kesan, supra note 3, at 1996.
C. The Daubert Decision

In order to resolve a split in the federal circuits, the Supreme Court granted certiorari, in Daubert, to decide the issue of the admissibility of expert testimony after Rule 702. In Daubert, the Court explicitly rejected Frye and adopted a more liberal standard for determining the admissibility of scientific testimony. The Daubert Court held that Rule 702 superseded the Frye "general acceptance" test, and found the Frye test "rigid and not comporting with the 'liberal thrust' and 'permissive backdrop' of the Federal Rules." The Court set forth new criteria by which a court should evaluate the admissibility of scientific testimony. The nonexclusive, nondispositive Daubert factors are: (i) the existence of a falsifiable methodology; (ii) whether the theory or technique has been subject to


68. See Daubert, 509 U.S. at 585. Daubert involved a suit by two children, Jason Daubert and Eric Schuller and their parents against Merrell Dow Pharmaceuticals, alleging that Bendectin, a drug marketed by Merrell Dow to combat morning sickness had caused their birth defects when ingested by their mothers during pregnancy. See id. at 579. The trial court ruled that the plaintiff's expert testimony was inadmissible to establish causation because it failed to satisfy the "general acceptance" test from Frye. Daubert v. Merrell Dow Pharm., 727 F. Supp. 570, 572 (S.D. Cal. 1989). The plaintiffs based causation on animal studies, the similarity in chemical structure between Bendectin and drugs which induce abnormal embryologic development, and statistical reanalysis of previously published studies. See id. On appeal, the Ninth Circuit affirmed. Daubert v. Merrell Dow Pharm., 951 F.2d 1128 (1991). The Ninth Circuit noted that other courts considering the risks of Bendectin were reluctant to admit a reanalysis of epidemiological studies that had not been published or subject to peer review stating that the unpublished testimony proffered by the plaintiffs was "particularly problematic in light of the massive weight of the original published studies supporting the defendant's position, all of which has undergone full scrutiny from the scientific community." Id. at 1130.

69. Id. at 593-94. The Court stated:

Nothing in the text of this Rule establishes "general acceptance" as an absolute prerequisite to admissibility. Nor does respondent present any clear indication that Rule 702 of the Rules as a whole were intended to incorporate a "general acceptance" standard. The drafting history make no mention of Frye, and a rigid "general acceptance" requirement would be at odds with the "liberal thrust" of the Federal Rules and their "general approach of relaxing the traditional barriers to 'opinion testimony.'"

Id. at 588.

70. The requirement of a falsifiable methodology compels judges to look for objective standards in the expert's testimony so that it might be tested and proven. See id. at 579.
peer review and publication;\(^7\) (iii) the known or potential rate of error analysis and the existence and maintenance of controls of the technique's operation;\(^8\) and (iv) the degree to which the theory has been generally accepted\(^9\) in the scientific community.\(^9\) Thus, while "general acceptance" was still a factor in the test for admissibility, it no longer was the only way scientific evidence could get into the courtroom.\(^5\) Moreover, *Daubert* imposed a reliability requirement in the form of a gatekeeping function for trial judges. Pursuant to *Daubert*, courts were to assess the scientific validity of scientific expert testimony by screening for unreliable evidence rather than simply relying on "general acceptance" within the relevant community.\(^6\) The *Daubert* Court expressly stated that it was only addressing the reliability of scientific expert testimony and left open the question of nonscientific testimony.\(^7\)

\(^7\) Peer review refers to the common practice of publishing scientific revelations and subjecting conclusions to review and criticism from the scientific community. *See* *id.*

\(^8\) This requirement ensures that the expert's methodology is employed the same way every time and that the expert's conclusions are not based on a methodology that has a high rate of error. *See* *id.*

\(^9\) This is the same "general acceptance" advanced in *Frye*. *See* *id.*; *Frye*, 293 F. 1013, 1013; *see also supra*, notes 21-29 and accompanying text (discussing *Frye*'s "general acceptance" test). However, the *Daubert* court merely listed "general acceptance" as one of the factors to be considered rather than the entire basis. *See* *Daubert*, 509 U.S. at 593. In addition, the *Daubert* court stated that courts should focus on the expert's principles and methodology rather than the conclusions they generate. *See* *id.* at 595. *But see* General Electric Co. v. *Joiner*, 118 S. Ct. 512, 518 (1997) (stating that the trial judge might need to examine an expert's conclusions to determine whether the data supports the conclusions which the testimony is based on). In *Joiner*, the Supreme Court addressed a split in the circuits regarding the standard of review of the admission of scientific expert testimony. The Eleventh Circuit had applied a "particularly stringent" standard of review in reversing the district court's exclusion of expert testimony, maintaining that its gatekeeping role was limited. *Joiner* v. General Electric Co., 78 F.3d 523, 529-30 (11th Cir. 1996). The Eleventh Circuit suggested that *Daubert* altered the standard of appellate review when it held that Rule 702 superseded the "austere" *Frye* test. General Electric v. *Joiner*, 118 S. Ct. 512, 517 (1997). Holding that the "abuse of discretion" standard applied to the District Court's decision to exclude the scientific evidence, the Supreme Court reversed. In doing so, the Court reiterated the significance of the judge's role as gatekeeper noting that although *Daubert* did not address the standard of appellate review, it did state "the fact that Rule 702 displaced the *Frye* test does not mean that the Rules do not place limits on the admissibility of purportedly scientific evidence. Nor is the trial judge disabled from screening such evidence." *Id.* at 516 (citing *Daubert* v. Merrell Dow Pharm. 509 U.S. 579, 589 (1993)).

\(^4\) *See* *id.* at 593-94.

\(^5\) *See* *id.* at 593.

\(^6\) *See* *id.*

\(^7\) The Court stated that *Daubert* "is limited to the scientific context because that is the nature of the expertise offered here." *Id.* at 590 n.9. Thus, the Court did not
In his dissent, Chief Justice Rehnquist expressed concerns about the *Daubert* majority’s interpretation of Rule 702 and its application to other types of testimony. He questioned whether *Daubert* would apply to “technical or other specialized knowledge,” and if there was a distinction between this type of testimony and the scientific testimony addressed in the case. Indeed, the Chief Justice’s statement was a harbinger of the future uncertainty that *Daubert* created.

### II. The Divided Circuits

The federal circuits are now split on whether *Daubert* should apply to nonscientific expert testimony. The various standards applied for admissibility of nonscientific testimony range from a literal application of *Daubert* to a restrictive approach eliminating any use of *Daubert* in the area of nonscientific testimony.

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78. See *Daubert*, 509 U.S. at 600 (Rehnquist, C.J., concurring in part and dissenting in part).

Does all of this dicta apply to an expert seeking to testify on the basis of technical or other specialized knowledge — the other types of expert knowledge to which Rule 702 applies — or are the general observations limited only to scientific knowledge? What is the difference between scientific knowledge and technical knowledge?

79. Id. Rehnquist also stated that the majority opinion failed to distinguish “scientific” from “technical” knowledge. See *id*.

80. Compare *Compton v. Subaru of Am., Inc.*, 82 F.3d 1513 (10th Cir.), cert. denied, 117 S. Ct 611 (1996) (finding that *Daubert* does not apply to nonscientific testimony because it is based upon experience or training rather than methodology or technique) and *Den Norske Bank AS v. First Nat'l Bank of Boston*, 75 F.3d 49 (1st Cir. 1996) (relying on *Daubert*'s reliability requirement and judicial “gatekeeping” function to assess the validity of nonscientific testimony) with *Berry v. City of Detroit*, 25 F.3d 1342 (6th Cir. 1994) (applying *Daubert*'s four factors directly to nonscientific testimony). See *Laser, supra* note 14, at 1388 (noting that courts are clearly in conflict on this issue and discussing the various approaches to evaluating the scope of *Daubert* and its application to nonscientific testimony).

81. See *Berry*, 25 F.3d at 1349. This suggests applying the four *Daubert* factors, falsifiable methodology; peer review and publication; rate of error and controls; and general acceptance, to nonscientific testimony. See *infra* Part III A.2. (noting that the nature of nonscientific testimony may preclude the application of the four *Daubert* factors).

82. See, e.g., *Compton v. Subaru of Am., Inc.*, 82 F.3d 1513 (10th Cir. 1996), cert. denied, 117 S. Ct. 611 (1996); United States v. Arevalo-Gamboa, 69 F.3d 545 (9th Cir. 1995); Thomas v. Newton Int'l Enters., 42 F.3d 1266 (9th Cir. 1994); *Iacobelli Constr., Inc. v. County of Monroe*, 32 F.3d 19 (2d Cir. 1994); United States v. Amuso, 21 F.3d. 1251 (2d Cir. 1994); United States v. Muldrow, 19 F.3d 1332 (10th Cir. 1994).
A. Refusing to Extend the Application of Daubert To Nonscientific Testimony

Several circuits hold that the application of Daubert is limited to scientific testimony. In narrowing the scope of Daubert, these courts have declared that the special concerns associated with scientific testimony do not arise with expert testimony that is based on technical or specialized knowledge or skill.

In Compton v. Subaru, the Tenth Circuit emphasized that Daubert "had little bearing" on nonscientific testimony based on an expert's experience and training, and that applying Daubert was inappropriate when the testimony was based on general principles gathered from years of experience. In precluding the use of Daubert, the Tenth Circuit reasoned that the Daubert factors apply only when an expert relies upon a particular principle or methodology, and held that the four factors do not apply when the expert is merely relying on experience or training.

Similarly, the Ninth Circuit limits the application of Daubert to the evaluation of scientific testimony. It maintains that Daubert

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83. See, e.g., Compton v. Subaru of Am., 82 F.3d 1513 (10th Cir. 1996), cert. denied, 117 S. Ct. 611 (1996); United States v. Arevalo-Gamboa, 69 F.3d 545 (9th Cir. 1995); Thomas v. Newton Int'l Enters., 42 F.3d 1266 (9th Cir. 1994); Iacobelli Constr., Inc. v. County of Monroe, 32 F.3d 19 (2d Cir. 1994); United States v. Locascio, 6 F.3d 924 (2d Cir. 1993).

84. See McKendall v. Crown Control Corp., 122 F.3d 803, 807 (9th Cir. 1997); United States v. Cordoba, 104 F.3d 225, 228 (9th Cir. 1997); Compton, 82 F.3d at 1519; Thomas, 42 F.3d at 1270; Iacobelli, 32 F.3d at 25.

85. 82 F. 3d 1513 (10th Cir. 1996), cert. denied, 117 S. Ct. 611 (1996).

86. See Compton, 82 F.3d at 1519. Compton involved a products liability action against Subaru in which the plaintiff's engineering expert testified to the defective design of the roof support structures in the car because they permitted excessive roof crush. See id. at 1516. In Compton, the court maintained that it did not need to inquire into the reliability of the testimony because it was based on general engineering principles gathered from the expert's twenty-two years of experience as an automotive engineer rather than any particular methodology. See id. at 1519. The court limited the inquiry to a strict Rule 702 analysis as to the issues of relevancy, qualifications and helpfulness to the jury. See id. at 1520.

87. See id. at 1519.

88. See id. The court found that although the trial judge erred in relying on Daubert, the expert testimony was admissible nonetheless in that it satisfied the requirements of Rule 702. See id.

89. See McKendall v. Crown Control Corp., 122 F.3d 803 (9th Cir. 1997). In reaching its conclusion that Daubert should not be applied, the McKendall court closely associated itself with the decision in Compton, saying it found the decision "instructive." Id. at 806. The court rejected a lower court's striking of a design expert in a product liability case, holding that Daubert should never have been applied because the testimony proffered was not sufficiently scientific in nature. See id. at 807. The court maintained that the expert's experience, training and knowledge of forklifts made his testimony admissible under Rule 702 and that was the appropriate standard...
does not apply to nonscientific evidence, such as modus operandi testimony, because it is based on specialized, rather than scientific, knowledge.

The Second Circuit also has refused to apply *Daubert* to nonscientific testimony, finding that reliance on *Daubert* is “misplaced” when the expert testimony does not “present the kind of junk science problem that *Daubert* meant to address.” The Second Circuit is reluctant to apply *Daubert* to nonscientific testimony, such as descriptions of the operations of organized crime families and payroll review by an accountant, because applying *Daubert* to these types of testimony would be inconsistent with Rule 702’s inclusion of testimony based upon “knowledge, skill, experience, training or education.” The Second Circuit maintains that because Rule 702 pertains to technical and specialized knowledge, testimony based upon such knowledge is sufficiently addressed by the requirements of the rule.

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90. Modus operandi is a term used by police and prosecutors to describe the particular method of a criminal’s activity. It refers to a distinct pattern of behavior so that separate crimes or conduct are recognized as the work of the same person. See *Black’s Law Dictionary* 1004 (6th ed. 1990).

91. See United States v. Cordoba, 104 F.3d 225 (9th Cir. 1997). In *Cordoba*, an expert was to testify that sophisticated drug traffickers do not entrust 300 kilograms of cocaine to someone unaware of what they are carrying. The court admitted the testimony under Rule 702, rejecting the defendant’s argument that it should be excluded under *Daubert*, stating “*Daubert* applies only to the admission of scientific testimony.” Id. at 230.

92. Iacobelli Constr., Inc. v. County of Monroe, 32 F.3d 19, 25 (2d Cir. 1994) (finding that *Daubert* could not be applied to the testimony of an underground construction consultant). But see F.D.I.C. v. Suni Assoc., 80 F.3d 681 (2d Cir. 1996) (finding a methodology whereby an expert used direct sales comparison and income capitalization valuations).

93. See United States v. Locasio, 6 F.3d 924, 936 (2d Cir. 1993).


95. See id.; *Locasio*, 6 F.3d at 936.

96. See *Locasio*, 6 F.3d at 936; see also infra, note 118-120 and accompanying text (noting the inconsistent logic with the Second Circuit’s position because Rule 702 addresses scientific testimony, yet *Daubert* is applied as an extra precaution to verify the reliability of the testimony).
B. Applying Daubert's Reliability Requirement To Nonscientific Testimony

The First, Third, and Fifth Circuits have imposed Daubert's "gatekeeping" function on trial judges reviewing nonscientific expert testimony, requiring them to carefully screen both the competency of the expert and the reliability of the testimony in question.\(^{97}\) In assessing the reliability of nonscientific expert testimony, these courts usually determine whether the testimony in question is based on a particular methodology.\(^{98}\) If the method can be explained, and is found to be reliable by the judge, the testimony is admitted.\(^{99}\)

In Watkins v. Telsmith,\(^{100}\) the Fifth Circuit recently maintained that the Daubert factors are relevant in evaluating other types of expert testimony for which a particular methodology cannot be identified.\(^{101}\) The Watkins court stated that the decision of the

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97. See Den Norske Bank AS v. First Nat'l Bank of Boston, 75 F. 3d 49, 57-58 (1st Cir. 1996) (applying Daubert in evaluating the reliability of testimony from a banker who throughout his forty year career had become familiar with the types of agreements in question and noting the trial court's gatekeeping function in determining the competency of the expert and the reliability of the testimony); Habecker v. Clark Equipment Co., 36 F.3d 278, 290 (3d Cir. 1994) (excluding the testimony of an accident simulation expert following Daubert's requirement of a preliminary assessment of the validity of the expert's methodology, while not inquiring into the peer review, general acceptance, testability or error rate requirements of Daubert); see also United States v. Kayne, 90 F.3d 7 (1st Cir. 1996) (finding an expert's testimony on the valuation of rare coins reliable because the methods used were clearly explained); United States v. 14.38 Acres of Land, 80 F.3d 1074 (5th Cir. 1996); Pedraza v. Jones, 71 F.3d 194 (5th Cir. 1995); United States v. Velasquez, 64 F.3d 844 (3d Cir. 1995) (finding Daubert's reliability requirement helpful in the admission of handwriting testimony because the methodology underlying handwriting analysis could be examined); Marcel v. Placid Oil Co., 11 F.3d 563 (5th Cir. 1994).

98. See Velasquez, 64 F.3d at 845 n.2 (finding that a handwriting expert based her conclusions on a clear methodology).

99. See id.; United States v. 14.38 Acres of Land, 80 F.3d 1074 (5th Cir. 1996) (admitting the testimony of a civil engineer because the court believed the testimony to be reliable as it was based upon a thorough inspection of the property in question as well as maps and photographs); Marcel v. Placid Oil Co., 11 F.3d 563 (5th Cir. 1994) (excluding the testimony of an economist because the expert did not base his conclusions on sufficient data, thereby rendering the testimony unreliable).

100. See Watkins v. Telsmith, Inc., 121 F.3d 984 (5th Cir. 1997).

101. The Watkins court stated that the view asserted by the Tenth Circuit, in Compton, that Daubert is completely inapplicable to nonscientific testimony is untenable. See id. at 991. The court stated that this assertion leads to the proposition that, experts who purport to rely on general engineering principles and practical experience might escape screening by the district court simply by stating that their conclusions were not reached by any particular method or technique. The moral of this approach would be, the less factual support for an expert's opinion, the better.
Tenth Circuit, in *Compton*, was untenable because it allows experts who rely on general principles and practical experience to escape screening simply because their conclusions were not reached by any particular methodology, and thus not scientific enough to warrant a *Daubert* inquiry. The *Watkins* court demanded judicial gatekeeping for all types of expert testimony, regardless of whether the expert’s conclusions rest on a methodology or technique.

C. Applying *Daubert* Inconsistently

The Sixth, Seventh, and Eighth Circuits have applied *Daubert* inconsistently. Although the Sixth Circuit is the only court to apply the *Daubert* test literally to nonscientific testi-

*Id.* Loretta Watkins brought this suit after her husband was killed when a wire rope supporting a conveyor belt snapped and the conveyor fell on him. She sought to admit the testimony of Marcus Dean Williams who had received a degree in civil engineering, was a B-17 pilot in World War II and worked in an engineering and tool design facility for Boeing. In addition, Williams taught drafting, surveying, structural design and engineering at a junior college. *See id.* at 984-87. However, despite these credentials, the court maintained that William’s testimony “lacked the requisite indicia of reliability to derive from scientific, technical, or other specialized knowledge” because the methodology he used to determine the existence of alternative designs. *See id.* at 991. The flawed methodology included the lack of testing of any of the proposed alternatives rendering the testimony inadmissible. *See id.* at 990. Thus, while the court implemented the *Daubert’s* reliability standard to exclude the testimony, it also considered the other aspects of *Daubert*-like methodology and applied it to technical, rather than strictly scientific knowledge. *See id.*

102. *See Compton v. Subaru of Am.*, 82 F.3d 1513, 1519 (10th Cir. 1996) (stating that *Daubert* is completely inapplicable to nonscientific testimony because it is not based on a methodology or technique); *supra* notes 85-88 and accompanying text.

103. *See Watkins*, 121 F.3d at 991 (“[I]t seems exactly backwards that experts who purport to rely on general engineering principles and practical experience might escape screening by the district court simply by stating that their conclusions were not reached by any particular method or technique.”).

104. *See id.*

105. Compare United States v. Kremser Jones, 107 F.3d 1147 (6th Cir. 1997) (admitting testimony using only a Rule 702 analysis without any *Daubert* inquiry) with Berry v. City of Detroit, 25 F.3d 1342 (6th Cir. 1994) (excluding testimony because it failed to meet the four *Daubert* factors).

106. Compare Deimer v. Cincinnati Sub-Zero Prods., Inc., 58 F.3d 341 (7th Cir. 1995) (excluding an expert witness’s testimony because it lacked reliability as required by *Daubert*) with United States v. Williams, 81 F. 3d 1434, 1441-42 (7th Cir. 1996) (admitting testimony pursuant to a Rule 702 analysis without making any *Daubert* inquiry as to the reliability of the testimony).

107. Compare United States v. Johnson, 28 F.3d 1487 (8th Cir. 1995) (admitting testimony because it satisfied Rule 702 rather than making a *Daubert* reliability inquiry) with Ventura v. Titan Sports, 65 F.3d 725 (8th Cir. 1995) (applying *Daubert’s* reliability requirement and finding the testimony to be reliable because it was based on a sound methodology).
mony, it also has limited the extension of the *Daubert* factors when the proffered testimony was nonscientific. Similarly, the Seventh Circuit has stated that courts should always assess the reliability of an expert’s methodology, while failing to make *Daubert* inquiries in several cases. The Eighth Circuit also has inconsistently applied *Daubert* to nonscientific testimony. In some instances, it has followed only the requirements of Rule 702, while inquiring into the reliability of the testimony in other cases. Within each circuit, whether *Daubert* is applied to non-

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108. See Berry, 25 F.3d at 1342. In Berry, the expert testimony came from a retired sheriff who had a degree in sociology and four years work experience at the Department of Justice. See id. at 1348. He was called to testify to whether a police department’s failure to discipline officers was the proximate cause of a police officer shooting a victim. See id. The court applied *Daubert*, and found that the testimony failed because there was no indication that the expert’s theory had been formally tested, published and subjected to peer review, or accepted by other experts in the field. See id. at 1350-51. The Berry court noted that the proper foundation for a technical expert is the demonstration of “first hand familiarity” with the subject and that the use of empirical examples is one way to establish familiarity. *Id.*

109. See United States v. Kremser Jones, 107 F.3d 1147 (6th Cir. 1997). In *Kremser Jones*, the court rejected a request to treat a handwriting expert’s testimony as scientific testimony, citing the *Daubert* Court’s assertion that it was “quite convinced that handwriting examiners do not concentrate on proposing and refining theoretical explanations about the world, but instead use their knowledge and experience to answer the extremely practical question of whether a signature is genuine or forged.” *Id.* at 1157 (citing *Daubert*, 509 U.S. at 590). The court also noted the lack of empirical evidence in handwriting analysis. *Id.* But see United States v. Velasquez, 64 F.3d 844, 845 (3d Cir. 1995) (concluding that *Daubert* is helpful to assist the court in evaluating the reliability of the methodology underlying handwriting analysis). The *Kremser Jones* court admitted the testimony using a Rule 702 analysis, reasoning that “*Daubert* does not create a new framework” for technical or specialized testimony and that if *Daubert* were extended outside the realm of scientific testimony, “many types of relevant and reliable expert testimony — that derived substantially from practical experience — would be excluded.” *Id.* at 1158.

110. See, e.g., Roback v. V.I.P. Transp. Inc., 90 F.3d 1207 (7th Cir. 1996) (finding an engineering expert’s testimony reliable because it was based upon a technique which was subject to verification); Deimer, 58 F.3d at 343-45 (finding that a product design expert was unreliable because he did not support his conclusions with a reliable methodology); Frymire-Brinati v. KPMG Peat Marwick, 2 F.3d 183, 186-87 (7th Cir. 1993) (stating the importance of analyzing the validity of the witness’s reasoning as required by *Daubert*).

111. See, e.g., United States v. Williams, 81 F.3d 1434, 1441-42 (7th Cir. 1996) (affirming the admission of testimony by a witness familiar with a street gang’s code using a traditional Rule 702 evaluation without any reliability inquiry); United States v. Sinclair, 74 F.3d 753, 757-58 (7th Cir. 1996) (finding that *Daubert’s* reliability requirement had no relevance to the admissibility of a legal expert’s testimony).

112. See Johnson, 28 F.3d at 1496-97 (admitting testimony of a drug trafficking expert on the grounds that it was helpful to the jury rather than any inquiry into the reliability of the testimony).

113. See Ventura, 65 F.3d at 733 (admitting testimony of an expert testifying to the market rate of royalties for licensing intellectual property on the grounds that the
scientific testimony often rests on whether the expert has relied upon a methodology or technique, thereby classifying the testimony as more or less scientific, and more or less subject to a Daubert inquiry.\(^{114}\)

**III. The Reliability of Nonscientific Testimony Must Be Ensured**

**A. Implications of Daubert: Why There Is a Need to Ensure the Reliability of Nonscientific Testimony**

Although Daubert clarified the framework for determining the admissibility of scientific testimony, significant ambiguity remains with respect to the standard for admitting nonscientific expert testimony.\(^{115}\)

The application of Rule 702 to nonscientific testimony\(^ {116}\) is problematic because the rule lacks a reliability requirement.\(^ {117}\) The reliability of scientific testimony is protected by the Daubert standard\(^ {118}\) and the requirements of Rule 702,\(^ {119}\) but no such judicial standard exists to govern the admissibility of nonscientific evi-

\(^{114}\) Courts are more likely to apply Daubert when the expert demonstrates a particular methodology. *Compare Johnson*, 28 F.3d at 1496-97 (making no reliability inquiry into the testimony of a drug trafficking expert whose conclusions were not based upon any explanatory methodology) and *Carmichael v. Samyang Tire, Inc.*, 131 F.3d 1433 (11th Cir. 1997) (finding that the testimony of an expert on tire failure was not “scientific” and thus was not subject to a Daubert inquiry) *with Ventura*, 65 F.3d at 733 (finding that an economist’s testimony regarding the market rate for licensing royalties was admissible because the expert used a sound methodology) and *Peitzmeier v. Hennessy Indus., Inc.*, 97 F. 3d 293 (8th Cir. 1996) (applying the Daubert factors to exclude a design engineering expert’s testimony on alternative safety devices because the expert had not subjected his conclusions to testing and peer review). *See Tyus v. Urban Search Management*, 102 F.3d 256 (7th Cir. 1996) (holding that Daubert’s framework for assessing scientific expert testimony applies to the social sciences in which testimony is commonly grounded in a particular methodology); *infra* Part III.A. (discussing that engineering testimony is more suited to a Daubert inquiry because it is often based on a methodology which can be falsified whereas the testimony like that from legal expert or an expert on drug trafficking cannot always be similarly falsified).

\(^{115}\) *See supra* Part II (discussing the circuit split with respect to the standard for admission of nonscientific testimony).

\(^{116}\) FED. R. EVID. 702 (requiring the trial judge to simply screen for a qualified expert who can help the jury with relevant subject matter without screening for the reliability of the testimony); *see supra* Part II.B.

\(^{117}\) *See infra* Part III.C. (proposing an amendment to Rule 702 to resolve this dilemma).

\(^{118}\) *See supra* notes 68-77 and accompanying text.

\(^ {119}\) *See supra* notes 30-34 and accompanying text.
Although courts have limited the application of Daubert, judges should not examine less rigorously the specialized knowledge underlying nonscientific testimony, or abdicate their role as gatekeeper when making a Rule 702 evaluation.  

I. Distinguishing Scientific Knowledge From Specialized and Technical Expertise

How courts are to distinguish between the scientific knowledge defined in Daubert and technical or other specialized knowledge mentioned in Rule 702 remains a central question in determining the admissibility of nonscientific testimony. Daubert did not explain how courts were to make this differentiation. Moreover, the Supreme Court did not specify how judges would be able to place specific areas of expertise into these “presumably distinguishable” categories. The Daubert Court attempted to provide some guidance on this issue by resting the key inquiry as to whether

120. See supra Part II (discussing circuit split with respect to the standard for admitting nonscientific testimony).
121. See supra notes 83-96 and accompanying text (discussing the circuit courts refusing to apply Daubert to nonscientific testimony).
122. See United States v. Starzecpyzel, 880 F. Supp. 1027, 1042 (S.D.N.Y. 1995) (“The fact that Daubert does not apply to nonscientific expertise does not suggest that judges are without an obligation to evaluate proffered expert testimony for reliability.”); see also United States v. Jose Farias Ochoa 116 F.3d 487 (9th Cir. 1997).
123. That is, conclusions based on testing and experimentation as defined by “Newtonian Science.” See supra notes 46-47 and accompanying text.
124. See supra notes 32-34 and accompanying text.
125. Indeed this was Judge Rehnquist’s concern in his dissent. See Daubert v. Merrell Dow Pharm., 509 U.S. 579, 600 (1993) (Rehnquist C.J., concurring in part and dissenting in part); supra notes 78-79 and accompanying text.
126. See supra note 8.
127. Diana K. Sheiness, Note and Comment, Out of the Twilight Zone: The Implications of Daubert v. Merrell Dow Pharmaceuticals, Inc., 69 WASH. L. REV. 481, 491 (1994) (discussing the risk that courts may develop their own criteria for applying Daubert which will be inconsistent as some courts apply Daubert narrowly and others may extend the standard beyond its intended reach). See also Carmichael v. Samyang Tire, Inc., 131 F.3d 1433, 1436. The Carmichael court provided an interpretation of the differences between scientific and nonscientific testimony using the example of an auto mechanic analyzing a burned out spark plug.

Given a proper foundation, a mechanic with years of experience with spark plugs might be able to identify for a jury burns or other marks on a spark plug that he believes disclose whether the plug burned out because of normal wear or some defect; an experienced mechanic may recognize patterns of normal and abnormal wear on an auto part even though he has no knowledge of the principles of physics or chemistry that might explain why or how a spark plug works. Such a mechanic's testimony would be non-scientific, while the testimony of another expert on the nature and effects of combustion (applied to spark plugs) would be scientific.

Id. at 1436.
The proffered testimony was scientific on the ability to confirm the theory through experimentation and testing. The *Daubert* factors, therefore, were tailored to suit the specific methods used in reaching a scientific conclusion. Moreover, any conclusions reached in a manner other than through a particular methodology are not considered scientific within the purview of Rule 702, and thus are arguably not subject to the *Daubert* factors because the *Daubert* Court did not address nonscientific expert testimony.

Experience is to nonscientific experts what experimentation is to scientists. That a nonscientific expert’s basis for conclusion cannot be tested because it is based upon individual experience should not warrant less scrutiny of the reliability of the testimony. Scientific testimony may be validated through duplication of the expert’s methodology, whereas it is seldom possible to duplicate a nonscientific expert’s subjective experience.

For example, an expert testifying to the causation of various ailments resulting from exposure to toxins may use a dose-response

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128. See *Daubert*, 509 U.S. at 593 ("Ordinarily, a key question to be answered in determining whether a theory or technique is scientific knowledge that will assist the trier of fact will be whether it can be (and has been) tested."); see also Sheiness, *supra* note 127, at 490 ("If an expert derives authority from a field susceptible to testing but offers an opinion that eludes empirical confirmation, the testimony should be excluded. However, a requirement of empirical testing for testimony whose sources are not susceptible to verification would be too restrictive.").

129. See *Daubert*, 509 U.S. at 593 (stating the factors which bear significance when assessing the validity of scientific methodologies); see also infra notes 151-64 (discussing how the *Daubert* factors are better suited to assess the reliability of scientific rather than nonscientific testimony).

130. See *Laser*, *supra* note 14 at 1405; see also Sheiness, *supra* note 127, at 492 (noting the potential for dilemmas for judges when they are confronted with testimony based on areas of expertise that could apply scientific methods but typically do not, and citing *Hawthorne Partners v. AT&T Technologies, Inc.*, 831 F. Supp. 1398 (N.D. Ill. 1993), as resolving this dilemma by presuming the validity of testimony when others in the same field used a similar method).

131. See *Daubert*, 509 U.S. at 590 n.8 (stating that the Court’s discussion is limited to the scientific context because that was the nature of the expertise offered in the case).

132. See *Imwinkelried*, *supra* note 16, at 2289 (stating that the expertise of nonscientific experts stems from their experience, rather than methodological experimentation).


134. See Edward J. *Imwinkelried*, *A Comparative Law Analysis of the Standard for Admitting Scientific Evidence: The United States Stands Alone*, 42 Forensic Sci. INT’L 15, 23 (1989) (stating that the nature of scientific evidence adds to the accuracy of the testimony because another scientist can replicate the scientific research).

135. Presumably, individual experts will have varying experiences throughout their respective careers and thus, it follows that one expert may not always be able to verify the conclusions another draws from his or her own particular experience.
analysis in which the expert evaluates the dosage of the toxins plaintiffs allegedly received as well as the toxin levels of the alleged source. Another expert may obtain data from the plaintiffs and the alleged source, and perform the same methodology to conclude that plaintiffs had been subjected to an exposure high enough to cause their ailments. With respect to either expert, there will be hard data to prove or disprove the reliability of the expert's conclusions. Conversely, the testimony of an expert on the modus operandi of a drug dealer cannot be confirmed or refuted simply because another witness maintains to have seen a particular type of drug deal conducted in a dissimilar manner. Thus, subjective variations can be implemented in nonscientific testimony, yielding a greater need to ensure its reliability.

Today, a jury faced with nonscientific testimony must base the analysis of an expert on his or her credibility and whether the testimony appears to be sound. No safeguards exist, however, to ensure that the testimony actually is sound. Pursuant to Daubert, the trial judge screens scientific testimony for relevance and the expert's qualifications, as well as the reliability of the expert's conclusions. If judges do not fulfill a gatekeeping function for determining the admissibility of nonscientific testimony, then it is simply being presumed that experts' conclusions are reliable because the experts are qualified. Establishing that an expert is

136. See Cordoba, 104 F.3d at 229; Perrin, supra note 2 at 1457-58.
137. See Perrin, supra note 2 at 1455 (“[n]onscientific expert testimony deserves even greater skepticism because there is often no ability to test the technical expert’s theories or techniques or to prove false the expert’s underlying premise”). But see Jonathan R. Schofield, Note, A Misapplication of Daubert: Compton v. Subaru of America Opens The Gate For Unreliable and Irrelevant Expert Testimony, 1997 B.Y.U.L. REV. 489, 507-08 (stating that any expert opinion, including nonscientific opinions, “should be logically founded upon some methodology, reasoning, or principle,” and that, “otherwise the opinion would be merely unsupported speculation”).
138. Fed. R. Evid. 702. Judges assess the qualifications of the witness and whether the testimony will be helpful to the jury. See id. However, absence of any reliability requirement in Rule 702 places the burden of evaluating the reliability of the expert's conclusions on the jury.
139. See Daubert, 509 U.S. at 596. Those courts which maintain that Rule 702 sufficiently covers nonscientific testimony simply because the rule refers to “specialized” and “technical” knowledge ignore the fact that Rule 702 also mentions “scientific” knowledge, yet there is an additional reliability requirement for scientific testimony. See also United States v. Locascio, 6 F.3d 924, 936 (2d Cir. 1993) (stating that testimony based on specialized knowledge is sufficiently addressed by the requirements of Rule 702).
140. See Oh, supra note 9, at 563 (arguing that an emphasis on credentials is “misdirected,” and that, “unlike assessing the methodologies and principles underlying a field, examining an individual’s background provides no assurance that the expert will present valid views”); John William Strong, Language and Logic In Expert Testimony:
well qualified does not necessarily prove a correlation between the expert's knowledge and the matter at issue in a case. Consequently, a uniform standard must be applied that will require that judges ensure the reliability of all testimony.

2. Debunking The Notion That Nonscientific Testimony Requires Less Scrutiny

Many courts and commentators reason that scientific testimony requires a heightened standard of scrutiny because the nature of such evidence is complex and beyond the comprehension of most jurors. Courts may give less scrutiny to nonscientific testimony because they believe the cost of erroneously admitting this type of testimony is low. The jury is better able to evaluate the nonscientific expert's credibility because the information is more common to them. Thus, if the risk of misinterpretation is less, then less scrutiny is required. This argument presents two problems.

Limiting Expert Testimony By Restrictions of Function, Reliability, and Form, 71 OR. L. REV. 349, 363 (1992) (stating that the result of the traditional approach to admitting expert testimony is that the question of reliability of the testimony is "conveniently subsumed under the question of the qualification of the expert witness").

141. See Oh, supra note 9, at 563.

142. See Part III.B.5. (proposing a uniform standard).

143. See Reed v. State, 391 A.2d 364, 370 (Md. 1978); Gianelli, supra note 25, at 1237 (stating that scientific evidence has a potential danger of misleading the jury because "an aura of scientific infallibility may shroud the evidence"); Strong, supra, note 137, at 367 (stating that a distinction is needed between scientific and other types of experts because "propositions perceived as "scientific" by the jury possess an unusually high degree of persuasive power) (citing United States v. Addison, 498 F.2d 741, 744 (D.C. Cir. 1974) (noting that testimony from scientific experts may "assume a posture of mystic infallibility in the eyes of jury of laymen").

144. See Perrin, supra note 2, at 1425 (discussing the "relationship between the standard for admitting and excluding expert testimony and the testimony's perceived effect on the jury").


The trial court's role as gatekeepers is not intended to serve as a replacement for the adversary system. Vigorous cross-examination presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.

Id.
First, nonscientific expert testimony is still expert testimony, implying knowledge beyond the average juror.\footnote{146} Science is often accorded more scrutiny because of the disparity in expertise between the jury and the expert.\footnote{147} That an expert has been called, however, indicates that he or she has some special knowledge that the jury may benefit from.\footnote{148} It is no less important, therefore, that judges guarantee the reliability of nonscientific testimony so that the jury is not confused and does not give undue weight to unreliable testimony.\footnote{149}

Varying degrees of the risk of misinterpretation should not dictate whether or not the testimony is reliable.\footnote{150} Nonscientific testimony should be just as reliable as scientific testimony if jurors are to make well informed decisions. Furthermore, it should not be assumed that a jury, without judicial gatekeeping, will necessarily have an easier task in assessing the reliability of nonscientific expert testimony simply because an expert does not use a complicated methodology to reach his or her conclusion.\footnote{151} A jury may be as confused when evaluating the testimony of an expert in banking or legal standards of care as they are when hearing DNA testimony.\footnote{152}

\footnote{146} By definition an expert, scientific or nonscientific, helps the jury understand something of which they do not possess sufficient knowledge. See \textit{Black's Law Dictionary} 578 (6th ed. 1990) (defining expert as "one who by reason of education or special experience has knowledge respecting a subject matter about which persons having no particular training are incapable of forming an accurate opinion or making a correct deduction"). \textit{But see supra} note 143 (discussing the view that scientific testimony is different than technical and specialized expert testimony because of the "aura of infallibility" surrounding scientific evidence in the eyes of the jury).

\footnote{147} The argument follows that a juror is more likely to question testimony on a familiar topic because the juror possesses sufficient knowledge to do so whereas with complex, scientific knowledge, a juror is more likely to assume the truth of the testimony. \textit{See supra} note 143 and accompanying text.

\footnote{148} \textit{See supra} note 143 and accompanying text.

\footnote{149} \textit{See Tyus v. Urban Search Management}, 102 F.3d 256, 263 (7th Cir. 1996) (stating the obligation of the district court to ensure that it is dealing with an expert in all cases including when the expertise is based on experience or training).

\footnote{150} \textit{See id.} ("A trial court is not compelled to exclude expert testimony 'just because the testimony may, to a greater or lesser degree, cover matters that are within the average juror's comprehension.") (citing United States v. Hall, 93 F.3d 1337, 1342 (7th Cir. 1996)).

\footnote{151} \textit{See Laser, supra} note 14, at 1407.

\footnote{152} \textit{See id.; Berry v. City of Detroit}, 25 F.3d 1342, 1349 (6th Cir. 1994) (stating that the difficulties associated with the admissibility of expert testimony "are exacerbated when courts must deal with the even more elusive concept of nonscientific testimony"). The \textit{Berry} court provided the example of an expert testifying how a bumblebee is able to fly to illustrate the differences between scientific and nonscientific testimony and to support the view that nonscientific experts offer knowledge beyond that of the average juror which must be as well founded as scientific testimony. \textit{Id.}
Secondly, if nonscientific testimony is subjected to a lower standard of reliability, parties will be able to mold expert testimony to fit into a nonscientific category simply to escape Daubert's heightened scrutiny. The circuit split has resulted partly because courts have attempted to categorize various types of nonscientific testimony as more or less suited to the four Daubert factors. The more an expert arrives at his or her conclusions through some objective standard, the closer courts examine the reliability of the testimony, often applying the Daubert factors. Therefore, the reliability requirement mandated by Daubert may be circumvented simply by stating that an expert's conclusions are based on experience or education rather than any particular methodology. The

If one wanted to explain to a jury how a bumblebee is able to fly, an aeronautical engineer might be a helpful witness. Since flight principles have some universality, the expert could apply general principles to the case of the bumblebee. Conceivably, even if he had never seen a bumblebee, he still would be familiar with its component parts. On the other hand, if one wanted to prove that bumblebees always take off into the wind, a beekeeper with no scientific training at all would be an acceptable expert witness if a proper foundation were laid for his conclusions. The foundation would not relate to his formal training, but to his firsthand observations. In other words, the beekeeper does not know any more about flight principles than the jurors, but he has seen a lot more bumblebees than they have. See id. See also Imwinkelried, supra note 16, at 2279 (noting that the reliability of nonscientific expert testimony is just as suspect as that of scientific testimony).

153. See United States v. Kremser Jones, 107 F.3d 1147, 1156 (6th Cir. 1997) (rejecting appellant's argument that handwriting analysis constitutes scientific evidence, and therefore subject to Daubert scrutiny); United States v. Starzecpyzel, 880 F. Supp. 1027, 1036-37 (S.D.N.Y. 1995) (rejecting opposing party's attempt to cast forensic document expertise as scientific knowledge to warrant greater reliability scrutiny); see also supra note 141 and accompanying text.

154. Real estate appraisal is a good example of nonscientific testimony that is often admitted under Daubert because the expert is able to demonstrate a clear methodology. See F.D.I.C. v. Suni Assoc., 80 F.3d 681, 686 (2d Cir. 1996) (admitting the testimony of a real estate appraiser upon finding the testimony reliable because the expert used sound valuation methodologies); Ventura v. Titan Sports, Inc., 65 F.3d 725, 733 (8th Cir. 1995) (same); see also Ohio v. Louis Trauth Dairy Inc., 925 F. Supp. 1247, 1252 (S.D. Ohio 1996) (applying the peer review and general acceptance Daubert factors to an economists testimony).

155. See Compton v. Subaru of Am., 82 F.3d 1513, 1518 (10th Cir. 1996) (holding that Daubert's reliability requirement is not necessary when an expert does base his conclusions on a particular methodology).

156. See Carmichael v. Samyang Tire, Inc., 131 F.3d 1433, 1434 (11th Cir. 1997). In Carmichael, the plaintiff-appealants argued that the district court should not have relied on Daubert's heightened scrutiny to exclude a tire failure expert because the testimony was not "scientific." Id. at 1434; see also Schofield, supra note 134, at 490 (stating that the Compton court, in holding that Daubert was inapplicable to an expert who based his opinion on experience, "created a gaping loophole" by which parties could avoid Daubert's reliability scrutiny and, "as a result opened the gate for the admissibility of unreliable and irrelevant testimony").
question remains, however, as to how courts are to evaluate the reliability of nonscientific experts when such experts are "experientially qualified."\footnote{157}

B. Potential Standards For The Admissibility Of Nonscientific Testimony

1. Reviving Frye

One proposed standard for the admissibility of nonscientific testimony suggests reviving the \textit{Frye} "general acceptance" test.\footnote{158} In its application, the \textit{Frye} test excludes any testimony in which the expert arrives at his or her conclusions in a manner different than that generally accepted by people in that area of expertise.\footnote{159}

The same problems that \textit{Frye}'s restrictive test presented with regard to scientific testimony apply to the nonscientific arena.\footnote{160} Consider the testimony of a design engineering expert who develops a cutting edge safety latch for a product.\footnote{161} Under \textit{Frye}, testimony that a manufacturer could have implemented such a device would be excluded because it is not yet generally accepted in the relevant community.\footnote{162} This is problematic because nonscientific experts often replace methodology with experience,\footnote{163} and nonscientific experts can rarely establish a generally accepted methodology because testimony based on subjective experience may not be generally accepted by other experts who have not had the same experience. Therefore, courts should not apply the \textit{Frye} test to nonscientific testimony.

\footnotetext[157]{157. Strong, \textit{supra} note 137, at 368; see Imwinkelried, \textit{supra} note 16, at 2292 (stating that the reliability of a nonscientific expert increases when an expert has had substantial experience in the field).}
\footnotetext[158]{158. \textit{Frye}, 293 F. at 1014; see Imwinkelried, \textit{supra} note 16, at 2284; see also \textit{supra} notes 21-25 (discussing the \textit{Frye} test).}
\footnotetext[159]{159. See \textit{supra} notes 21-25 and accompanying text.}
\footnotetext[160]{160. See \textit{supra} note 28 and accompanying text.}
\footnotetext[161]{161. See Peitzmeier v. Hennessy Indus., Inc., 97 F.3d 293, 297 (8th Cir. 1996) (excluding the testimony of a design engineering expert, who testified that the defendant could have used an alternative safety device on a tire changer, because the expert had not tested any of the proposed devices or subjected them to peer review).}
\footnotetext[162]{162. See \textit{supra} note 25 and accompanying text.}
\footnotetext[163]{163. See \textit{supra} note 132 and accompanying text.}
2. Literal Application of the Daubert Factors to Nonscientific Testimony

The Sixth Circuit's literal application of the Daubert test to nonscientific testimony\(^{164}\) presents glaring problems because not all nonscientific testimony can be subject to Daubert's four factors.\(^{165}\) For example, the "falsifiable experimental testing"\(^{166}\) and "rate of error"\(^{167}\) requirements are applicable only when the expert relies on some kind of methodology,\(^{168}\) and thus have little bearing on the reliability of an expert who is testifying on general principles gathered from years of experience in a particular area. Moreover, expert testimony based on personal experience cannot always be evaluated on the basis of "peer review"\(^{169}\) or "general acceptance,"\(^{170}\) although such testimony may be as valuable to the trier of fact as those opinions that are easily gauged in such terms. Therefore, the Daubert factors are not tailored to suit the specific concerns that arise when determining whether to admit nonscientific expert testimony.\(^{171}\)

The first Daubert factor is perhaps the most inapplicable to nonscientific testimony.\(^{172}\) Falsifiable experimental testing is employed to check scientific testimony for the presence of objective standards.\(^{173}\) However, nonscientific testimony is often subjective.\(^{174}\) With years of experience in a particular field that is not based on

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\(^{164}\) See Berry v. City of Detroit, 25 F.3d 1342, 1350-51 (6th Cir. 1994); supra note 108 and accompanying text.

\(^{165}\) See Lisa M. Agrimonti, Note, The Limitations of Daubert and Its Misapplication to Quasi-Scientific Experts, A Two-Year Case Review Of Daubert v. Merrell Dow Pharmaceuticals, 35 Washburn L.J. 134, 144 (stating that applying the Daubert factors to nonscientific evidence is, "at best, absurd" and demonstrating through a hypothetical situation how the Daubert factors are ill suited to assess the reliability of nonscientific testimony); infra notes 173-187 and accompanying text (discussing that the Daubert factors are tailored to the specific concerns associated with scientific testimony and are not well suited to address the reliability of nonscientific testimony).

\(^{166}\) See supra note 70.

\(^{167}\) See supra note 72.

\(^{168}\) See Daubert v. Merrell Dow Pharm., 509 U.S. 579, 593 (1993); supra notes 46-47 and accompanying text (defining scientific testimony as that in which the expert's conclusions are grounded in sound methodology); supra, note 77 and accompanying text (noting that the Daubert court limited the discussion to the scientific context).

\(^{169}\) See supra note 71.

\(^{170}\) See supra note 73.

\(^{171}\) See Agrimonti, supra note 165, at 144 (demonstrating the difficulty in applying the Daubert factors to nonscientific expert testimony).

\(^{172}\) See Sheiness, supra note 127, at 490 (noting that the requirement of empirical testing for experts whose sources are not susceptible to verifications is too restrictive).

\(^{173}\) See Daubert, 509 U.S. at 593 (citing C. Hempel, Philosophy of Natural Science 49 (1966) and K. Popper, Conjectures and Refutations: The Growth of Scientific Knowledge 35 (5th ed. 1989)).
Newtonian Science, an expert may be able to provide useful information without demonstrating a particular methodology, and thus a way must be found to uniformly gauge the reliability of the expert's testimony.

Daubert's rate of error factor is similarly inapplicable to non-scientific testimony. The purpose of the rate of error requirement is to ensure that the methodology is employed the same way every time. Thus, if a consistent methodology is not applied each time the theory is proffered, there can be no evaluation of rate of er-

174. See supra note 134-37 and accompanying text (demonstrating through a hypothetical example how a nonscientific expert's testimony can be subjective).

175. See supra notes 46-47 and accompanying text (defining the concept of Newtonian Science).

176. A recent Second Circuit case, Stagl v. Delta Airlines, Inc., 117 F.3d 76 (2d Cir. 1997), illustrates this principle. The Stagl court vacated the trial court's exclusion of the testimony of a mechanical engineer whose expertise was in the area of human-machine interaction. See id. at 82. The expert suggested that the interaction between the baggage claim system employed by Delta and the passengers trying to claim their baggage caused the plaintiff's injury when she was knocked to the ground, breaking her hip, by a passenger retrieving a bag from the carousel. See id. at 78. While the district court concluded that the expertise offered was too general, the Second Circuit found value in the testimony despite its lack of methodology stating that, "Where, as here, well-trained people with somewhat more general qualifications are available, it is error to exclude them." Id. at 82. A hypothetical example of this is the FBI agent who is called to testify to a drug dealer's modus operandi. He or she may confidently say just by looking at a particular scenario that it is indicative of the way drug deals are usually performed. According to the first prong of Daubert, unless the FBI agent's theory had been tested, it would be deemed unreliable. Such was the case in Berry, in which the Sixth Circuit applied Daubert to a police officer's testimony that the Detroit Police Department's failure to properly discipline officers was the proximate cause of the office shooting the victim. See Berry v. City of Detroit, 25 F.3d 1342, 1347 (6th Cir. 1994). The Berry court applied the first prong of Daubert, inquiring whether or not the officer's discipline theory had been tested. See id. at 1350. Clearly the court would want to make sure the officer's testimony has some basis in either observations or calculations. However, because the officer was testifying to a behavioral theory, experimental testing would not be as feasible. See Laser, supra note 14, at 1411 (noting that it is doubtful that any single experiment could conclusively show the effects of a failure to discipline police officers over a period of time). Accordingly, the Sixth Circuit found that the theory had not been tested and this factor went to the exclusion of the expert when in fact the testimony may have been reliable. See Berry, 25 F.3d at 1350.

177. See United States v. Smith, 869 F.2d 348, 353-54 (7th Cir. 1989) (considering the expert's rate of error in assessing the reliability of spectrographic voice identification).
This is the one factor even the Berry court could not apply to nonscientific testimony.\(^{179}\)

Although the publication and peer review aspect of Daubert is commonly applied to nonscientific testimony,\(^{180}\) it is also science specific.\(^{181}\) Peer review indicates reliability in science because it is common practice for scientists to publish in scientific journals and subject their research and findings to review by their peers.\(^{182}\) Nonscientific experts may not always publish their theories, however, because many particularized areas of expertise usually do not generate sufficient interest.\(^{183}\)

It is the job of a scientist to gather data, make calculations, and report on any findings. Nonscientific experts, on the other hand, usually are professionals in their field called to testify about their particular experience and may not be as accustomed to the practices of publishing and peer review as scientists\(^{184}\) as they are not as common for nonscientific experts.\(^{185}\) Finally, peer review is not always a guarantor of sound testimony. Any group espousing unconventional views can establish a journal for peer review and the lack of quality control in such journals makes suspect any assurance of reliability.\(^{186}\)

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178. See Laser, supra note 14, at 1413. The Berry court found the officer's testimony to be unreliable on the other Daubert factors, peer review and general acceptance. Although the officer claimed to have published some articles and a textbook, there was no peer review. See Berry, 25 F.3d at 1349-50.

179. See id.; see also Laser, supra note 14, at 1413.

180. See Oh, supra note 9, at 561.

181. See Agrimonti, supra, note 165, at 144.

182. See Daubert v. Merrell Dow Pharm., 509 U.S. 579, 593 (1993). The Daubert court found peer review relevant to the inquiry of the reliability of scientific testimony stating, "submission to the scrutiny of the scientific community is a component of 'good science' in part because it increases the likelihood that substantive flaws in methodology will be detected." Id.

183. See Daubert, 509 U.S. at 593 (stating that peer review is relevant but not dispositive in assessing the scientific validity of a particular technique or methodology on which an opinion is premised); David F. Horrobin, The Philosophical Basis of Peer Review and the Suppression of Innovation, 263 JAMA 1438 (1990) (stating that well-grounded but innovative theories may not be published); see also J. Ziman, AN EXPLORATION OF THE GROUNDS FOR BELIEF IN SCIENCE 130-33 (1978); Relman & Angell, How Good is Peer Review?, 321 NEW. ENG. J. MED 827 (1989).

184. See Laser, supra note 14, at 1413 ("Only in the formal, traditional sciences is there an established practice of publication and peer review.").

185. See id.

186. See Sterling v. VelsicolChem. Corp., 855 F.2d 1188 (6th Cir. 1988) (rejecting testimony based on "clinical ecology" because the entire field of expertise is unreliable).
3. Judges as Gatekeepers

Daubert's gatekeeping function for trial judges transcends any qualitative differences between scientific and nonscientific testimony.\(^{187}\) In a recent case, *Thornton v. Caterpillar*,\(^{188}\) the judge found that the Daubert factors did not apply to the proffered testimony of a mechanical engineer because the test was never meant to be applied to testimony that is nonscientific in nature.\(^{189}\) The judge emphasized the differences between admissibility and reliability, and stated that admissibility is for the judge to decide while reliability is for the jury.\(^{190}\) This notion is implausible. While juries evaluate the relative credibility of witnesses, judges should be responsible for keeping all unreliable "junk" testimony out of their courtrooms, not simply "junk science."\(^{191}\)

The proliferation of "guns for hire"\(^{192}\) in trials also makes it essential that judges carefully screen nonscientific testimony.\(^{193}\) Although it is illegal to compensate a lay witness with anything of value,\(^{194}\) paying an expert witness for testimony is permissible and

\(^{187}\) One way judges have ensured reliability to a limited extent is by scrutinizing the qualifications of each expert to appear in his or her court. See Strong, *supra* note 140, at 363 ("[T]he question of the reliability of the general propositions utilized by the expert is conveniently subsumed under the question of the qualification of the expert witness.").


\(^{189}\) See id. at 577.

\(^{190}\) See id.

\(^{191}\) See United States v. Webb, 115 F.3d 711 (9th Cir. 1997) (J. Jenkins, concurring). Judge Jenkins reasoned that although the Daubert factors could not be applied to the specialized knowledge of law enforcement:

We cannot be suggesting that the district court examine less rigorously the specialized knowledge underlying proffered nonscientific testimony, or that the district court may abdicate its role as gatekeeper where the subject matter does not depend on the scientific method. The trial court's role as gatekeeper concerning nonscientific "specialized knowledge" proves equally crucial to the integrity of the trial process . . . .

*Id.* at 717.

\(^{192}\) "Guns for hire" is a term which portrays experts as paid employees working as advocates to persuade the jury of the client's position. See Berry v. City of Detroit, 25 F.3d 1342, 1349 (6th Cir. 1994) (noting that in the age of "experts for hire," it is not inconceivable for a party to purchase experts with impressive credentials to testify for the party's benefit); Laser, *supra* note 14, at 1409 ("In the age of 'experts for hire,' it is not inconceivable for a party to 'purchase' persons with impressive credentials to say what the party wants them to say."); see also Perrin, *supra* note 2, at 1453.

\(^{193}\) See Watkins v. Telsmith, Inc., 121 F.3d 984, 1991 (5th Cir.) (stating that regardless of what kind of testimony is proffered, the allocation of Daubert's reliability principles is "germane to evaluating whether the expert is a hired gun or a person whose opinion in the courtroom will withstand the same scrutiny that it would among his professional peers").

indeed expected. 195 This has created a market for experts in which lawyers purchase the expert who can best convince a jury of their client’s position, regardless of whether the expert’s conclusions are well founded. 196 It has even been noted that a “fool with a small flair for acting and mathematics might be a more successful witness than, say, Einstein.” 197

As paid advocates, experts can be vehicles for pervasive corruption in courtrooms because they have a financial incentive to advance the case of the party who hires them. 198 That experts will begin testifying free of charge is unlikely, 199 so it is incumbent upon the judiciary to ensure that both scientific and nonscientific expert testimony is reliable and not prepared in anticipation of the litigation. 200

4. Amending Rule 702

The extension of Daubert’s gatekeeping requirement to non-scientific testimony would be best accomplished by adopting an amendment to Rule 702. In 1991, the Advisory Committee on Civil Rules to the Standing Committee on Rules of Practice and Procedure of the Judicial Conference of the United States proposed an amendment to the rule. 201 The proposed amendment expressly added a “reasonable” reliability requirement which was

196. See Perrin, supra note 2, at 1415-16 (“Lawyers shop for experts, ultimately choosing the one that talks right, looks right, has the right credentials, and will work with the lawyer in the development of her opinions.”).
197. Id. (citing GERRY SPENCE, WITH JUSTICE FOR NONE 270 (1989)).
198. See Trower v. Jones, 520 N.E.2d 297, 300 (Ill. 1988) (noting that a favorable verdict will enable the expert to establish a “track record”). Perrin, supra note 2, at 1414 (arguing that experts have an interest in advancing the case so they are retained in the future).
199. See Perrin, supra note 2, at 1413 (acknowledging that many experts are professional experts who make a living testifying in court).
200. See Schofield, supra note 137, at 515 (stating that the Compton court should have inquired into whether the expert’s testimony was prepared solely for the litigation). See also Joe S. Cecil & Thomas E. Willging, Accepting Daubert’s Invitation: Defining A Role For Court-Appointed Experts In Assessing Scientific Validity, 43 Emory L.J. 995, 996 (1994) (suggesting an alternative way for judges to ensure the reliability of expert testimony by utilizing court-appointed experts pursuant to Federal Rule of Evidence. 706).
201. The proposed amendment reads:
Testimony providing scientific, technical, or other specialized information, in the form of opinion or otherwise, may be permitted only if (1) the information is reasonably reliable and will substantially assist the trier of fact to understand the evidence or to determine a fact in issue, and (2) the witness is qualified as an expert by knowledge, skill, experience, training, or education to provide such testimony.
implicitly stated in Daubert. Although such a requirement properly focuses attention on the problem of reliability, the proposal provides neither a definition of what “information is reasonably reliable,” nor guidance in applying such a reliability standard. While the application of the Frye test is unduly limiting, this proposed amendment is too broad to be very useful.

C. Proposal

Rule 702 should be amended to effectively implement a reliability requirement and compel the judiciary to embrace its gatekeeping role in the admission of both scientific and nonscientific testimony. The amendment should address the problem of reliability in nonscientific testimony by providing a clear standard and framework for judges to follow, rather than requiring them to make a case by case inquiry, determining whether the particular testimony proffered is sufficiently scientific in nature, and thus subject to Daubert’s enhanced reliability scrutiny. Taking these factors into consideration, I propose the following amendment to Rule 702:

If scientific, technical, or other specialized knowledge will substantially 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 in the form of opinion or otherwise if the testimony is shown to be reasonably reliable.

Testimony will be considered reasonably reliable if it is based upon sufficient facts, data, opinions, explanatory theory or reasoning i) which is generally accepted in the relevant specialized community or ii) if the testimony is shown to be not generally accepted, the party offering the testimony proves by a preponderance of the evidence that the testimony is otherwise reliable including a demonstration that sound principles have been applied reliably to the facts of the case, the witness is testifying in accordance with the same intellectual rigor applied in his or her
professional practice, and the field of expertise is known to reach reliable results.204

204. This proposal incorporates elements of two of the many proposed amendments to Rule 702, reviewed by the Advisory Committee on the Federal Rules of Evidence in 1997, and one proposal recently approved to be recommended to the Standing Committee in April, 1998.

The first reviewed proposal provides:

Testimony providing scientific, technical or other specialized information, in the form of an opinion, or otherwise, may be permitted only if (1) the information is based upon adequate underlying facts, data or opinions, (2) the information is based upon an explanatory theory either (a) established to have gained widespread acceptance in the particular field to which the explanatory theory belongs, or (b) shown to possess particularized earmarks of trustworthiness, (3) the witness is qualified as an expert by knowledge, skill, experience, training or education to provide such information, and (4) the information will substantially assist the trier of fact to understand the evidence or to determine a fact in issue.

MICHAEL H. GRAHAM, HANDBOOK OF FEDERAL EVIDENCE (4th ed. 1996). One arguable problem with the proposal discussed in the Advisory Committee Reporter's comment is the vagueness of the language “particularized earmarks of trustworthiness” and “substantially assist.” Advisory Committee on the Federal Rules of Evidence Reporter's Comment, October, 1997 (on file with author). The amendment proposed in this Note, including a provision entailing what judges should consider in evaluating trustworthiness or reliability, will remedy this problem. The second reviewed proposal reads,

A witness may testify, in the form of an opinion or otherwise, concerning scientific, technical, or other specialized information that will assist the trier of fact to understand the evidence or to determine a fact in issue, but only if (1) the information is reasonably reliable, and (2) the witness is qualified as an expert by knowledge, skill, experience, training, or education to provide that testimony.

Information normally will be considered reasonably reliable if it is based on premises, or derived from techniques, having significant support and acceptance within the relevant specialized community. A party seeking to object to a witness testifying thereto must show by a preponderance of the evidence that the information is not reasonably reliable.

Information based on premises or derived from techniques not having significant support and acceptance within the relevant specialized community will not be considered reasonably reliable. A party seeking to have an expert base testimony on this type of information must show by a preponderance of the evidence that this testimony is reasonably reliable.

Alan Tamarelli, Daubert v. Merrell Dow Pharmaceuticals: Pushing the Limits of Scientific Reliability, 47 VAND. L. REV. 1175 (1994). A problem with this proposal is that it does not specifically state how a party might overcome a presumption of unreliability. See Advisory Committee on the Federal Rules of Evidence Reporter's Comment, October, 1997 (on file with author). The amendment proposed in this Note suggests that the additional inquiries as to whether the witness is adhering to the same standards of intellectual rigor required in the witness' field will provide a solution to this problem. The proposed amendment recently approved by the Advisory Committee to be recommended to the standing committee provides,

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
This proposal goes further than simply suggesting a reliability requirement because it provides a specific standard by which to apply the reliability requirement. The guideline for what is normally considered "reasonably reliable" will eliminate confusion and inconsistent application in courts because judges will have a clear standard which they can uniformly apply. Moreover, the proposal also is flexible and broad enough to ensure the reliability of all expert testimony because the reliability requirement applies to both scientific and nonscientific testimony.

This proposal may seem similar to the Frye "general acceptance" test because it states that information is reasonably reliable if it has significant support within the relevant specialized community. The proposal does not, however, absolutely preclude theories that are not generally accepted within the relevant community of expertise. Although it is based on the assumption that general acceptance is the primary indicator of reliability, it provides a burden shifting proposition, which enables reliable testimony to be heard even if it has not gained general acceptance.

qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise provided that (1) the testimony is sufficiently based upon reliable facts or data (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case. Advisory Committee on the Federal Rules of Evidence proposal approved to be recommended to the Standing Committee, April 6, 1998 (on file with author). This proposal recognizes the significance of evaluating whether an expert has not only applied a sound methodology, but that the methodology is applied appropriately to the facts of the case. See In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 745 (3d Cir. 1994) (noting the importance of a methodology being properly applied to the specific facts of a case).

205. See supra note 200 (discussing the 1991 proposed amendment which simply suggests a reliability requirement for all expert testimony without providing a framework for how such a requirement would be implemented).

206. See Schofield, supra note 137, at 515 ("Without a uniform standard, an expert's testimony that is likely to fail under Daubert's scientific factors could be repackaged under the guise of technical or nonscientific evidence and avoid Daubert['s enhanced scrutiny].").

207. The proposal applies to both scientific and nonscientific specialized or technical knowledge.

208. See supra notes 22-29 and accompanying text

209. See supra note 28.

210. Initially, the party opposing the testimony bears the burden of proving it to be unreliable and if that is accomplished, the testimony is excluded. See Fed R. Evid. 702. However, this amendment proposes that once the testimony is proven to be unreliable because it lacks general acceptance, the burden shifts back to the party offering the testimony to show that it is indeed reliable despite the lack of general acceptance.
If a party opposing an expert's testimony shows the testimony is not generally accepted, the party offering the testimony has an opportunity to show that the testimony is indeed reliable and overcome the presumption of unreliability. The proposal suggests that a way to overcome this presumption is by demonstrating that the testimony would withstand scrutiny by other experts in the field. The “general acceptance” in this proposal is different from that required by *Frye* because the proposal does not mandate that an expert use a generally accepted methodology. Rather, an expert may establish that the reasoning which led to the conclusions advanced would be generally accepted. Expert witnesses must establish a similarity between their professional practice or experience and the proffered testimony, which includes the inquiry into whether the witness has employed the same reasoning that other experts in the field use to base their conclusions. Moreover, the proposal suggests that part of ensuring whether a witness' methodology or reasoning is reliable is examining whether it has been appropriately

211. *See* Tassin v. Sears, Roebuck & Co., 946 F. Supp. 1241 (M.D. La. 1996) (holding that in the context of engineering testimony, when the expert's opinions are based on technical expertise, rigid compliance with the Daubert factors is not necessary as long as the expert provides a reasonable link between the information and procedures he uses and his conclusions); Imwinkelried, *supra* note 16, at 2292-92 (stating that the reliability of an expert increases with the more experiences an expert has and the similarity of those experiences to the testimony in question).

212. *See* Schofield, *supra*, note 137, at 508 (stating that although nonscientific experts may not use a complicated methodology, all experts should base their conclusions on some methodology, reasoning or principle; for example, past experience constitutes part of a methodology through which an expert might adequately base a conclusion).

213. The additional inquiry as to whether the expert is adhering to the same standards of intellectual rigor required in the expert's field will help establish that the expert is not a “hired gun” who has prepared the testimony solely for the litigation. *See* Sheehan v. Daily Racing Form, Inc., 104 F.3d 940, 942 (7th Cir. 1997) (noting the importance of an expert being “as careful as he would be in his regular professional work outside his paid litigation consulting”); Braun v. Lorillard Incorporated, 84 F. 3d 230 (7th Cir. 1996) (stating that the proper inquiry in evaluating the reliability of expert testimony should be what sort of data other professionals in the same field would require to support their conclusions); Schofield, *supra* note 137, at 511. Schofield argues:

Perhaps one of the best indicators as to whether an expert's reasoning or methodology is reliable is whether the expert has followed the criterion established in his profession. An expert should not be able to have his testimony admitted in court on standards that are less than what is expected in the expert's field.

Id. The application of such an inquiry would be to require lawyers, for example, to substantiate their legal conclusions in court with case law and statutes as they do routinely in their professional practice. *See also* Daubert v. Merrell Dow Pharm. 43 F.3d 1311, 1317 (9th Cir. 1995); Laser, *supra* note 14, at 1418.
applied to the facts of the case.\textsuperscript{214} The requirement that an expert's field of expertise is known to reach reliable results will preclude the possibility that an expert might be able to satisfy that he or she has adhered to the intellectual rigor of an unreliable practice.\textsuperscript{215}

The proposal has the additional advantage of promoting judicial efficiency by having the relevant community of expertise, rather than the courts, determine the validity of the expert's testimony.\textsuperscript{216} The fields of scientific and nonscientific knowledge are so diverse\textsuperscript{217} that it would be extremely burdensome to compel judges to become sufficiently learned in a particular area in order to assess the reliability of an expert testifying in that area.\textsuperscript{218} This still may be required in rare cases where there is either not a large enough community of expertise to evaluate an expert's reasoning or lack of consensus within a community regarding acceptable standards.\textsuperscript{219} However, in the majority of cases which do not present these issues, the proposal will allow judges to focus on their gatekeeping responsibilities rather than becoming "amateur experts."\textsuperscript{220}

The Tenth Circuit case, \textit{Compton v. Subaru of America, Inc.},\textsuperscript{221} best illustrates the practical application and utility of this proposal. The \textit{Compton} court held that where expert testimony is based on general engineering principles gathered from years of experience, rather than any particular methodology, performing a \textit{Daubert} reliability inquiry is not necessary.\textsuperscript{222} Although the expert's reasoning

\begin{itemize}
\item \textsuperscript{214} See \textit{In re Paoli R.R. Yard PCB Litig.}, 35 F.3d 717, 745 (3d Cir. 1994) (stating that "any step that renders the analysis unreliable renders the expert's testimony inadmissible," and that this is true "whether the step completely changes a reliable methodology or merely misapplies that methodology").
\item \textsuperscript{215} See \textit{Sterling v. Velsicol Chem. Corp.}, 855 F.2d 1188 (6th Cir. 1988) (rejecting the testimony of a "clinical ecologist" because the field is unreliable).
\item \textsuperscript{216} See \textit{Polentz, supra} note 4, at 1189 (citing \textit{Reed v. State}, 391 A.2d 364, 371-72 (Md. 1978) (justifying the adoption of the \textit{Frye} test as a means of allowing the scientific community to make the determination on the validity of the testimony)).
\item \textsuperscript{217} See \textit{supra} notes 35-45 and accompanying text (providing examples of different kinds of expert testimony).
\item \textsuperscript{218} See \textit{Oh, supra} note 9, at 563 ("Judges would be required to acquire sufficient proficiency in a wide range of expertise.").
\item \textsuperscript{219} See \textit{id.} (noting the problem of there being no consensus in a specific area regarding its "essential principles of knowledge").
\item \textsuperscript{220} \textit{Daubert v. Merrell Dow Pharm.}, 509 U.S. 579, 600-01 (1993) (Rehnquist, C.J., concurring in part and dissenting in part) ("I do not doubt that Rule 702 confides to the judge some gatekeeping responsibility in deciding questions of the admissibility of proffered expert testimony. But I do not think it imposes on them either the obligation or the authority to become amateur scientists in order to perform that role.").
\item \textsuperscript{221} 82 F.3d 1513 (10th Cir. 1996); see \textit{supra}, note 85-88 and accompanying text.
\item \textsuperscript{222} See \textit{id} at 1520. This decision suggested that an expert would be able to get around a reliability inquiry by saying that no methodology was implemented to reach the expert's conclusions and that the job of evaluating the credibility of the expert
was unreliable, the court nonetheless admitted the testimony because the expert had sufficient qualifications and testified to relevant subject matter.

Under the proposed amendment, the party offering such an expert would have to establish that his or her conclusions are based on "adequate underlying facts, data, or opinion" and are "reasonably reliable," instead of focusing on the qualifications of the expert. If Subaru was able to demonstrate that the expert presented unreliable testimony, the expert would have had the opportunity to rebut this presumption by showing that he used standard engineering principles, thereby adhering to the intellectual rigor in his professional field. The application of this amendment would fill the reliability gap left by a sole inquiry into the expert's qualifications and relevance.

**Conclusion**

In areas of nonscientific expertise, where testimony rarely is based on a specific methodology, and thus is not adaptable to the four Daubert factors, the trial judge must still ensure that the testimony is reliable. While the fear of "junk science" pervading courtrooms compels judges to scrutinize scientific testimony, it is equally important that nonscientific testimony be grounded in well-reasoned and nonspeculative theory. Accordingly, Rule 702 should be amended to require trial judges to embrace their gatekeeping role with regard to all types of expert testimony. The proposed amendment resolves the inconsistent application of Daubert by providing a clear standard for judges to follow and affords the best solution for ensuring the reliability of nonscientific testimony.

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223. In Compton, the experts opinion, that the plaintiff's car was defectively designed because it allowed excessive roof crush, was "questionable and lacked reliability," and the judge remarked that the expert's testimony was "more applicable to a Sherman tank than to any vehicle which the ordinary consumer would drive." Compton, 82 F.3d at 1516; see Schofield, supra note 137, at 490.

224. See Compton, 82 F.3d at 1518.

225. See supra, Part III.C.

226. See id.

227. See supra note 117 and accompanying text (discussing why the traditional application of Rule 702 to nonscientific testimony is problematic).