Opening the Door but Keeping the Lights Off: *Kumho Tire Co. v. Carmichael* and the Applicability of the *Daubert* Test to Nonscientific Evidence

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COMMENT

OPENING THE DOOR BUT KEEPING THE LIGHTS OFF: KUMHO TIRE CO. V. CARMICHAEL AND THE APPLICABILITY OF THE DAUBERT TEST TO NONSCIENTIFIC EVIDENCE

"[Expert testimony] has done more than any one rule . . . to reduce our litigation towards a state of legalized gambling."1

INTRODUCTION

In recent years, the use of expert testimony has increased dramatically.2 The specialized knowledge and experience that experts possess about given topics make them invaluable tools for clarifying and illustrating complex issues for judges and juries.3 This increase, however, has been accompanied by a widespread, yet justified, paranoia about the influence an expert can have on the outcome of a trial and the use of "junk science" in the courtroom.4 More specifically,

1 7 JOHN HENRY WIGMORE, WIGMORE ON EVIDENCE § 1929 (3d ed. 1978).
2 See Edward J. Imwinkelried, The Next Step After Daubert: Developing a Similary Epistemological Approach to Ensuring the Reliability of Nonscientific Expert Testimony, 15 CARDOZO L. REV. 2271, 2273 (1994); see also Edson McClellan, Comment, Sharpening the Focus on Daubert's Distinction Between Scientific and Nonscientific Expert Testimony, 34 SAN DIEGO L. REV. 1719, 1721 (1997) (asserting that the use of expert testimony has increased proportionately with the increase in technology in society); Samuel R. Gross, Expert Evidence, 1991 WIS. L. REV. 1113, 1118-19 (discussing the findings of a 1985-86 survey of 529 civil jury trials in California Superior Courts). Another illustrative example of the use (or overuse) of expert testimony can be found by examining the September 1999 issue of the American Bar Association Journal. Of the total 162 advertisements in the classified section of the journal, 119 were experts soliciting work. These experts varied from construction consultants to bicycle accident reconstruction artists and airplane cabin injury investigators. See A.B.A. J., Sept. 1999, 104-07; see also McClellan, supra, at n.6 (describing similar findings in the September 1996 edition of the ABA Journal).
4 See Imwinkelried, supra note 2, at 2286; see also PETER W. HUBER, GALILEO'S REVENGE: JUNK SCIENCE IN THE COURTROOM (1993) (providing an in- depth and revealing analysis about the use of junk science in the courtroom). But see Scott C. Andre, Comment, Weird Science: Problems with the U.S. Supreme Court's New Evidentiary Standard for Expert
the problem is the way that judges, juries, and witnesses are often unduly persuaded by experts who possess impressive credentials. To combat this "aura of infallibility," trial judges have the duty of deciding which experts are relevant and reliable and, therefore, permitted to testify. The task of determining the admissibility of expert testimony becomes particularly daunting when a judge is required to determine the reliability of testimony that is based on personal knowledge and experience rather than principles of science and mathematical formulas. The testimony of a number of experts, including police officers, accountants, bankers, farmers, and railroad brakemen, is based, to greater or lesser degrees, on practical experiences rather than scientific principles.

Until recently, federal courts had no guidelines for determining the admissibility of nonscientific expert testimony. On March 23, 1999, the Supreme Court handed down its decision in _Kumho Tire Testimony and Oregon Case Law as a Possible Solution_, 73 OR. L. REV. 691, 692 (1994) (arguing that the decision in _Daubert_ will not end junk science for three reasons: (1) _Daubert_’s definition of "scientific knowledge" does not adequately address nonscientific expert testimony; (2) it fails to offer definitive guidelines for courts to evaluate scientific expert testimony; and (3) the decision places too heavy a burden on judges to determine good science).

The fear is that scientific testimony carries an "aura of infallibility" and that jurors will lend more weight to expert testimony than other types of evidence. See _Imwinkelried, supra_ note 2, at 2286; see also _McClellan, supra_ note 2, at 1722 (stating that "[j]uries have been accused of attributing a 'mystic infallibility' and 'aura of special reliability' to opinion evidence") (citations omitted); Rochelle Cooper Dreyfuss, _National Mass Tort Conference: Is Science a Special Case? The Admissibility Scientific Evidence After Daubert v. Merrill Dow_, 73 TEX. L. REV. 1779, 1798 (1995) ("Lacking the technical expertise to examine the validity of scientific claims critically, jurors may find for the side with the most experts, the most presentable experts, or the prettiest charts."); Alan W. Tamarelli, Jr., _Daubert v. Merrill Dow Pharmaceuticals: Pushing the Limits of Scientific Reliability – the Questionable Wisdom of Abandoning the Peer Review Standard for Admitting Expert Testimony_, 47 VAND. L. REV. 1175-76 (1994) ("When a testifying expert professes to have a knowledge in a specialized field, juries often find sorting out issues of credibility and relevance difficult and confusing."); see also Michael J. Polentz, _Comment, Post-Daubert Confusion With Expert Testimony_, 36 SANTA CLARA L. REV. 1187, 1204-05 (1986) (observing that "when the subject matter of a cause of action is beyond the understanding of the jury, expert testimony becomes a powerful tool that has the potential to sway a decision one way or the other").

See, e.g., _Berry v. City ofDetroit_, 25 F.3d 1342 (6th Cir. 1994) (reversing the admission of expert testimony by a former sheriff about the use of deadly force by Detroit police officers).

See, e.g., _Frymire-Brinati v. KPMG Peat Marwick_, 2 F.3d 183 (7th Cir. 1993) (reversing the admission of the expert testimony of an accountant regarding the valuation of a corporation’s assets).


See, e.g., _Federal Crop Ins. Corp. v. Hester_, 765 F.2d 723, 728 (8th Cir. 1985) (holding that the district court did err in permitting the testimony of farmers about corn farming and potential crop yield).

See, e.g., _Eckert v. Aliquippa & Southern Ry. Co._, 828 F.2d 183, 185 & n.5 (3d Cir. 1987) (holding that a railroad brakeman was qualified to testify regarding violations of the SAA and SAA Regulations).
in an effort to answer some of the lingering questions about the use of nonscientific expert testimony left by Daubert v. Merrill Dow Pharmaceuticals. In Daubert, the Court provided a framework for judges to use when deciding whether to admit expert testimony pursuant to Federal Rule of Evidence 702. The "Daubert test" established a gatekeeping role for trial judges that requires them to determine the relevance and reliability of scientific expert testimony before allowing its admission. In the majority opinion in Daubert, the Court addressed the issue of scientific expert testimony, but failed to attend to the issue of nonscientific expert testimony. This omission left trial judges without guidance for dealing with nonscientific evidence and resulted in inconsistency among federal courts on the standard of admissibility. In Kumho Tire, the Court attempted to address those issues and settle any lingering doubts regarding the admissibility of nonscientific evidence. However, Kumho Tire, like Daubert, left unanswered questions. The Court concluded that the Daubert principles regarding scientific evidence were generally applicable to nonscientific evidence—a conclusion that forces trial judges to apply a standard initially created for expert testimony based on science to less concrete and more tangential decisions based on perception and experience. Thus, judges are left with a decision that simply does not seem to "fit."

This Comment critically examines the Kumho Tire decision, its shortcomings, and the effects it will have on the future of the admissibility of nonscientific expert testimony. Part I describes the history leading up to the Kumho Tire decision and the legal standards previously used to determine the admissibility of nonscientific evidence. It is important to understand the history of the use of expert testimony in the courtroom because by recognizing the manner by which expert testimony was evaluated in the past, it is easier to determine how expert testimony will be used after Kumho Tire. Part II critically examines the Supreme Court's decision in Kumho Tire Co. A complete

13 Federal Rule of Evidence 702 states: "If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise." FED. R. EVID. 702.
14 The Majority in Daubert wrote "the Rules of Evidence - especially Rule 702 - do assign to the trial judge the task of ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand." Daubert, 509 U.S. at 597.
15 Only in passing did the Daubert Court note that "Rule 702 also applies to 'technical, or other specialized knowledge.' Our discussion is limited to the scientific context because that is the nature of the expertise offered here." Id. at n.8.
16 See infra Part I.C.
review of the decision and the guidelines devised by the Court is essential in order to appreciate why the new standard is not a solution, but rather a barrier to determining the admissibility of non-scientific expert testimony. Part III sets forth reasons why the Court’s decision fails to address the true problems of applying the Daubert test to non-scientific expert testimony. This final section offers some predictions on how the Kumho decision will impact the admissibility of non-scientific expert testimony, and also offers some suggestions for reworking the standard.

I. BEFORE KUMHO TIRE: THE FRYE AND DAUBERT STANDARDS

A. United States v. Frye

Prior to the development of the standard set forth in Daubert and Kumho Tire, most jurisdictions relied on the “Frye test” for determining the admissibility of expert testimony. In Frye v. United States, James Frye appealed a second degree murder conviction on the sole ground that the trial court excluded expert testimony regarding the results of a systolic blood pressure deception test which, he claimed, would have demonstrated his innocence. The systolic blood pressure test was a crude precursor to the modern polygraph test, and Frye offered an expert to testify that he passed the test as proof that he did not commit the crime. Without offering any precedent for the decision, the appellate court upheld the exclusion of the testimony on the ground that the systolic blood pressure test was not a “generally accepted” method of assessing truth-telling by physiological and psychological authorities. The court held:

Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized, and while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently

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17 See Imwinkelried, supra note 2, at 2272. A minority of jurisdictions, however, rejected the Frye test and developed alternatives. See Needham, supra note 3, at 547. See, e.g., United States v. Williams, 443 F. Supp. 269, 273 (S.D.N.Y. 1977), aff’d, 583 F.2d 1194 (2d Cir. 1978) (rejecting the Frye test and developing the “substantial acceptance” test).
18 293 F. 1013 (D.C. Cir. 1923).
19 See id. at 1013.
20 See id. at 1014.
21 See id.
established to have gained general acceptance in the particular field in which it belongs.22

*Frye* created a two-step test for assessing expert testimony. It required judges to: (1) identify the scientific field of the testifying expert, and (2) determine whether the principle or discovery was generally accepted in the field of study.23 Thus, *Frye* examined whether the basis of the testimony was generally accepted in the scientific community, not the reliability of the testimony itself.24

The standard articulated in *Frye* provided some practical benefits. The "general acceptance" test deferred science to the scientific community, and helped to avoid the difficult problems encountered by judges and juries when they attempt to evaluate complicated and often confusing expert opinion.25 Furthermore, the test offered assurance that evidence would have an *indicia* of reliability by excluding scientific evidence with only a minimal amount of scientific support—so-called "junk science."26

Nevertheless, *Frye* created an ultraconservative test that excluded expert testimony relating to novel or developing areas of science, and in some cases, may have impeded the use of bona fide expert testimony.27 In addition, the *Frye* court's failure to clearly define the term "general acceptance" may have caused substantial problems with defining its boundaries, resulting in the exclusion of reliable testimony.28 Despite *Frye's* shortcomings, it became the law in almost all jurisdictions and set the standard for the next seventy years.

**B. Daubert v. Merrill Dow Pharmaceuticals**

In *Daubert*, the plaintiffs were minor children born with serious birth defects alleged to have been caused by their mothers' use of Bendectin, a prescription antinausea drug for pregnant women mar-

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22 *Id.*
23 See Needham, *supra* note 3, at 544.
24 *Id.*
25 *See Standards and Procedures for Determining the Admissibility of Expert Evidence After Daubert*, 157 F.R.D. 571, 572 (1994) ("Using the 'general acceptance' standard, courts deferred to the scientific community and avoided the difficulties inherent in evaluating information that was often extremely technical and highly confusing.") [hereinafter *Standards and Procedures*]; *see also* Polentz, *supra* note 5, at 1190-1191 (stating that "one premise is that the general acceptance test keeps the determination of whether a scientific theory is valid within the scientific community, and thus shifts this burden of analysis away from the judge and jury"). *Id.* at 1190 (citation omitted).
26 *See id.*
27 *See Needham, supra* note 3, at 544-545; *see also* Standards and Procedures, 157 F.R.D. at 572 (noting that "in the view of many, the *Frye* 'general acceptance' test tended to retard the admission of potentially useful scientific information").
28 *See Needham, supra* note 3 at 544-545.
The defendant removed the suit to federal court and moved for summary judgment based on an affidavit of a physician/epidemiologist who claimed that a review of the relevant literature revealed no studies finding Bendectin to be a human teratogen. The plaintiffs did not contest this conclusion, but presented eight experts who contended the drug did cause malformations. The District Court granted summary judgment for the defendant, stating that the expert evidence offered by the plaintiffs was not generally accepted in its field. The Ninth Circuit affirmed, citing Frye v. United States, and the Supreme Court granted certiorari.

In a 7-2 decision authored by Justice Blackmun, with a lone dissent by Chief Justice Rehnquist, the Court agreed with the petitioners that the trial court's reliance on the Frye test was erroneous. The majority found that Frye had been superceded by the enactment of the Federal Rules of Evidence and specifically referenced Rule 702, which governs the admissibility of expert testimony. The cited Rule 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 qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.

Upon review, the majority concluded that neither the text of the rule nor its drafting history required general acceptance as a prerequisite to admissibility, nor was there any mention of Frye. Moreover, such a rigid requirement would not comport with the "liberal thrust" of the Federal Rules favoring the admission of relevant evidence.

30 See id. (noting that a human teratogen is "a substance capable of causing malformations in fetuses").
31 See id. Their conclusions were based on "in vitro" (test tube) and "in vivo" (live) animal studies that found such a link, pharmacological studies that demonstrated similarities in the chemical structure of Bendectin and other substances known to cause birth defects, and the "reanalysis" of previously published epidemiological (human statistical) studies. See id. at 583.
32 See id. The Court stated that it was difficult to justify the use of non-epidemiological evidence given the vast amount of epidemiological evidence available; see also Daubert v. Merrill Dow Pharm., 727 F. Supp. 570, 572 (S.D. Cal. 1989), rev'd, 509 U.S. 579 (1992).
33 See Daubert, 509 U.S. at 584-85.
34 See id. at 587.
35 Fed. R. Evid. 702.
36 See Daubert, 509 U.S. at 588.
37 See id. Justice Blackmun noted that Rule 401, which defines relevant evidence as anything that has "any tendency to make the existence of any fact that is of consequence to determination of the action more probable than it would be without the evidence," creates a liberal standard of relevance under the Federal Rules of Evidence. See id. at 587.
For these reasons, the majority concluded that Frye was superceded by the Federal Rules of Evidence and would no longer apply in federal courts.\textsuperscript{38} Although the Rules displaced Frye, the Court held that the Federal Rules bestowed upon trial judges a “gatekeeping” role to ensure that all scientific evidence admitted is both reliable and relevant.\textsuperscript{39}

First, for scientific evidence to be reliable, the Court asserted that Rule 702 requires an expert’s testimony to consist of “scientific knowledge.”\textsuperscript{40} The adjective “scientific” suggests the use of scientific methods and procedures, and the word “knowledge” implies testimony that consists of more than subjective belief or speculation.\textsuperscript{41} Thus, in order for testimony to qualify as scientific knowledge, the Court stated it must be derived from the scientific method and supported by appropriate validation.\textsuperscript{42} In the words of Justice Blackmun, “the requirement that an expert’s testimony pertain to ‘scientific knowledge’ establishes a standard of evidentiary reliability.”\textsuperscript{43} Second, Blackmun stated that Rule 702 also requires that the scientific evidence or testimony “assist the trier of fact to understand the evidence or to determine a fact in issue.”\textsuperscript{44} This, he claimed, created a standard of relevance for expert testimony.\textsuperscript{45} In other words, Rule 702 requires a valid scientific connection to the inquiry at issue as a “precondition to admissibility.”\textsuperscript{46}

Unfortunately, the standard in Daubert, like the one in Frye, focused on something other than the actual results of the scientific evidence. In Frye, the focus was whether the science was generally accepted in the particular field, not on the reliability of the testimony itself.\textsuperscript{47} Similarly, Daubert also focused on the reliability of the method from which the testimony was derived, not the reliability of the testimony itself.\textsuperscript{48} Justice Blackmun’s decision was based on the

\textsuperscript{38} See id. at 589.
\textsuperscript{39} See id.
\textsuperscript{40} See id. at 590.
\textsuperscript{41} See id.
\textsuperscript{42} See id.
\textsuperscript{43} Id. (“In order to qualify as ‘scientific knowledge,’ as inference or assertion must be derived by the scientific method. Proposed testimony must be supported by appropriate validation – i.e., ‘good grounds,’ based on what is known. In short, the requirement that an expert’s testimony pertain to ‘scientific knowledge’ establishes a standard of evidentiary reliability.”).
\textsuperscript{44} See id. at 591 (quoting Federal Rule of Evidence 702).
\textsuperscript{45} See id.
\textsuperscript{46} See id. at 592. The Court also described the requirement as the evidence having to be “fit.” See id. at 591. That is, while testimony or evidence may be scientifically valid, it must also be pertinent to the issue at hand. See id.
\textsuperscript{47} See Needham, supra note 3, at 554.
\textsuperscript{48} See Imwinkelried, supra note 2, at 2277; Kenneth J. Chesbro, Taking Daubert's “Focus” Seriously: The Methodology/Conclusion Distinction, 15 CARDozo L. REV. 1745, 1746
Newtonian concept that science is derived from a formulation of hypotheses, and the performance of experiments intended to test the validity of those hypotheses. Justice Blackmun reasoned that "good science" is separated from "junk science" by evaluating how conclusions are reached, not the substance of the conclusions itself. It was this realization that prompted the Court to offer "general observations" regarding the appropriate application of this new standard. In so doing, the Court identified four factors for trial judges to consider when determining the admissibility of scientific evidence: (1) whether the theory or scientific technique has been tested; (2) whether it has been subject to peer review or publication; (3) the known or potential rate of error; and (4) whether the principle was generally accepted in the relevant scientific community.

The majority noted, in passing, the applicability of the "Daubert test" to nonscientific expert evidence. In a single footnote, the court recognized that Rule 702 also applies to "technical, or other specialized knowledge" but stated that its decision was limited to scientific evidence because that was the expertise at issue. The majority also neglected to identify the differences between scientific and technical knowledge.

After Daubert, judges followed a two-step test when faced with scientific expert testimony. First, they determined whether the proffered evidence was scientific or nonscientific evidence. Second, assuming the evidence was scientific, they discharged their gatekeeping responsibilities by determining if the evidence was relevant.

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(1994) (asserting that “[the Court’s instructions are quite clear: Rule 702 authorizes courts to scrutinize only the ‘scientific validity’ of the ‘principles and methodology’ used by an expert – not the persuasiveness of the ‘conclusions’ so generated. An expert’s principles and methodology, alone, are the focus of Rule 702”).

See id. The Newtonian concept or Newtonian science is based on a methodology by which a scientist forms a hypothesis and then undertakes experiments and observations to validate or refute the hypothesis. See id. at 2276. Sir Isaac Newton used this experimental methodology to derive his law of mechanics. See id.

See id.

See id.

See id. at 590, n.8.

See id. at 594.

See id. at 594.

See id. at 594.

See id. at 600 (Rehnquist, C.J. dissenting).

See McClellan, supra note 2, at 1743 (“[T]he very first question such court should ask upon every proffer of expert testimony is whether the testimony is of a scientific or nonscientific nature . . . [o]nly after a court identifies the nature of the testimony can it then begin to apply the appropriate standard.”)

See id.
Where the expert evidence was non-scientific, judges were left to devise their own methods to determine the appropriate standard for admissibility.

Unconvinced that the Frye test should be replaced with the majority’s “general observations,” the Chief Justice challenged the majority’s holding in his dissent. More specifically, the Chief Justice criticized the majority’s failure to determine whether its decision should also apply to “technical or other specialized knowledge.” He argued that “countless more questions will surely arise” when district judges attempt to apply the Court’s “teachings.” Chief Justice Rehnquist’s dissent did more than note the majority’s failure to address some of the key issues presented by the Daubert case; it foreshadowed a controversy that would last for several years.

C. Post-Daubert Fallout: The Admissibility of Nonscientific Evidence

The Daubert Court’s demarcation of scientific and non-scientific evidence resulted in a great deal of controversy and inconsistency among federal courts. Following Daubert, legal commentators disagreed about the scope of Daubert and offered varying views about its applicability to non-scientific expert testimony. Federal judges were equally divided. With no guidance from the Court, each Circuit utilized a separate standard for admitting non-scientific evidence, and thus, the type of analysis employed varied substantially among the Circuits. As a result of the Court’s silence on the proper standard for determining the admissibility of non-scientific evidence, four trends developed.

The first trend, utilized solely by the Sixth Circuit, applied a literal application of the four-part Daubert analysis to non-scientific evi-

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60 See id.
61 See Daubert, 509 U.S. at 598.
62 See id. at 600-601. (“Does all 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’?”).
63 Id. at 600. (“I defer to no one in my confidence in federal judges; but I am at a loss to know what is meant when it is said that the scientific status of a theory depends on its ‘falsifiability,’ and I suspect some of them will be too.”).
64 See Needham, supra note 3, at 550. For a comprehensive analysis on the application of the Daubert test to non-scientific evidence by appellate courts, see Lynn R. Johnson, et al., Expert Testimony in Federal Court: Frye, Daubert, and Joiner, SC33 A.L.I.-A.B.A. 177 (1998) (reviewing the effect of Daubert in appellate courts); McClellan, supra note 2, at 1721 (analyzing the effect of Daubert on the various circuit courts and asserting that all expert testimony should be derived from a reliable basis); Jennifer Laser, Inconsistent Gatekeeping in the Federal Courts: Application of Daubert v. Merrill Dow Pharmaceuticals, Inc. to Nonscientific Expert Testimony, 30 Loy. L.A. L. Rev. 1379 (1997) (proposing that trial courts should evaluate non-scientific expert testimony based on the expert’s data and reasoning or methodology, not credentials).
65 See Needham, supra note 3, at 550; Laser, supra note 64, at 1389.
In *Berry v. City of Detroit*, the Sixth Circuit applied the four factors to nonscientific testimony with an unsettling result. In *Berry*, the expert witness was a retired sheriff with four years experience at the Department of Justice and a degree in sociology. In a wrongful death action against the City for the shooting death of the plaintiff’s son by the police, the witness testified that in his expert opinion the police department failed to adequately discipline its officers. After identifying the testimony as nonscientific, the court applied the Daubert test and the appellate court excluded the testimony because the theory had never been formally tested, subjected to peer review, or maintained general acceptance in its field. By simply glossing over the four factors in Daubert, which were clearly inapplicable to the expert’s testimony, the Sixth Circuit raised serious concerns about the applicability of Daubert to nonscientific evidence.

The second trend demonstrates other courts’ adherence to Daubert’s general principle that expert testimony must be “reliable,” but resistance to the notion that each of Daubert’s factors must be present for admissibility. Unlike *Berry*, these courts did not apply a literal interpretation of Daubert, but rather focused on applying factors that are appropriate for evaluating nonscientific testimony. Two cases illustrate the reasoning used by these courts. In *United States v. Kayne*, the First Circuit considered the admissibility of expert testimony by coin evaluation experts. In *Kayne*, the defendants established a coin brokerage that engaged in the business of valuing and pricing coins for resale, and were alleged to have sold coins of a lesser value and quality than that represented to customers. On appeal from mail fraud convictions, the defendants argued that the evi-

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66 25 F.3d 1342 (6th Cir. 1994).
67 See id. at 1348-49.
68 See id. at 1344.
69 See id. at 1350-51 (failing to make an inquiry into the theory’s rate of error).
70 See *Laser*, supra note 64, at 1394; see also *Needham*, supra note 3, at 553-554. This approach has been followed by the First, Third and Fifth Circuits. See, e.g., *Den Norske Bank AS v. First National Bank of Boston*, 75 F.3d 49, 57-58 (1st Cir. 1996) (applying Daubert in determining that a bank expert was sufficiently reliable based on his forty-year career and familiarity with the types of commercial agreements at issue); *United States v. 14.38 Acres of Land*, 80 F.3d 1074, 1079 (5th Cir. 1996) (reversing a lower court’s decision to exclude the expert testimony of a civil engineer and real estate appraiser as “speculative”); *Pedraza v. Jones*, 71 F.3d 194, 197 (5th Cir. 1995) (affirming lower court’s decision to exclude testimony of drug withdrawal by a thirty-year heroin addict for failure to satisfy the “indicia of reliability” test outlined in *Daubert”); *Marcel v. Placid Oil Co.*, 11 F.3d 563, 567-68 (5th Cir. 1994) (excluding the testimony of an economist regarding the work life expectancy of an oilfield worker based on insufficient data); *Petruzzi's IGA Supermarkets, Inc. v. Darling-Delaware Co.*, 998 F.2d 1224, 1236-38 (3d Cir. 1993) (permitting the testimony of two economists on antitrust matters based on the reliability of the experts’ methodology, but not citing to the recently decided *Daubert* decision).
71 90 F.3d 7 (1st Cir. 1996).
72 See id. at 9-10.
dence of the value of the coins, offered by coin dealers who testified as experts, was inadmissible based on the impropriety of the subject of expert testimony. The court, however, upheld the trial judge’s decision to admit the testimony. Rather than utilize the four-part Daubert test, the court focused on the fact that the experts were experienced, there was a carefully established chain of custody, and that the appraisals were sufficiently current.

Similarly, in Habecker v. Clark Equipment Co., the Third Circuit Court of Appeals affirmed the exclusion of the testimony of an accident reconstruction expert in a products liability action brought after a forklift fell over the side of a ramp and killed a man. The court held that the district court properly excluded the testimony of the plaintiff’s reconstruction expert because he did not have proper training. The court made specific reference to Daubert and the obligation to ensure that all expert testimony is relevant and concluded that the expert’s reconstruction did not “fit” the facts of the case, and therefore, was unreliable. The court appeared to rely solely on the general principles of Daubert that evidence must be relevant and reliable, but made no mention of Daubert’s four-factor analysis.

In the third trend, some Circuits inconsistently applied Daubert to nonscientific evidence. For example, the Seventh Circuit stated courts must assess an expert’s methodology to determine the reliability of the testimony. In Frymire-Brinati v. KPMG Peat Marwick, the plaintiffs filed a securities fraud complaint against an accounting firm for certifying the false financial statements of a real estate development on which the plaintiffs relied for investments. On appeal, the court considered whether the plaintiffs’ trial expert, the manager of another accounting firm, was properly permitted to testify. The decision to admit the testimony was reversed on the lower court’s failure to assess the reliability of the expert’s methodology, which appeared to utilize the incorrect standard of valuation. More recently the same Circuit failed to utilize this reliability standard in Ro-

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73 See id. at 11.
74 See id. at 11.
75 See id. at 12.
76 36 F.3d 278 (3d Cir. 1994).
77 See id. at 280.
78 See id. at 289.
79 See id. at 290.
80 See id.
81 See Laser, supra note 64, at 1399-1400.
82 See id. at 1400.
83 2 F.3d 183 (7th Cir. 1993).
84 See id. at 182-86.
85 See id. at 186.
86 See id. at 186-87.
In that case, the Seventh Circuit reviewed a lower court's decision to exclude the testimony of an engineer who devised a method of determining whether an automobile had malfunctioned. In overruling the decision and concluding that the expert should have been permitted to testify, the court made no inquiry into the expert's methodology. Rather, the Court focused on the fact that the expert's data was subject to verification. These cases provide only one example of the inconsistent application of Daubert to nonscientific testimony within the same Circuit.

In the final approach, some courts asserted that the Daubert test should be limited solely to scientific evidence. These courts theorized that nonscientific expert testimony does not present the same special concerns as expert testimony because nonscientific evidence is based on experience, not scientific methodology. For instance in Compton v. Subaru of America, the Tenth Circuit held that the trial court erred in applying the Daubert test to determine whether an engineer was fit to testify as an expert. The court concluded that the engineer was not testifying based on a “particular reasoning or methodology,” and found that Daubert was not applicable. The Tenth Circuit stated that “[t]he language in Daubert makes clear the factors outlined by the Court are applicable only when a proffered expert relies on some [scientific] principle or methodology . . . [i]n other words, application of the Daubert factors is unwarranted in cases where expert testimony is based solely upon experience or training”

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87 90 F.3d 1207 (7th Cir. 1996).
88 See id. at 1215.
89 See id. at 1216.
90 See Laser, supra note 64, at 1399-1402 (citing several other examples in the Seventh and Eighth Circuits).
91 See Needham, supra note 3, at 551-552; see also Laser, supra note 64, at 1391; United States v. Arevalo-Gamboa, No. 94-50236, 1995 WL 623746, at *2 (9th Cir. Oct. 24, 1995) (holding that the Daubert standard was not applicable when evaluating expert testimony regarding drug trafficking because the decision “applies to scientific testimony”); United States v. Muldrow, 19 F.3d 1332, 1337-38 (10th Cir. 1994) (applying Daubert to the expert testimony of a forensic chemist, but failing to apply that same standard to a police officer); Iacobelli Constr., Inc. v. County of Monroe, 32 F.3d. 19, 25 (2d Cir. 1994), cert. denied, 517 U.S. 1114 (1996) (finding that the lower court’s reliance on Daubert to evaluate the affidavits of a geotechnical consultant and underground construction consultant “was misplaced”); Thomas v. Newton Int’l Enter., 42 F.3d 1266, 1270 n.3 (9th Cir. 1994) (finding that “Daubert was clearly confined to the evaluation of scientific expert testimony”); Tamarin v. Adam Caterers, Inc., 13 F.3d 51, 53 (2d Cir. 1993) (holding that respondent’s reliance on Daubert was mistaken because “[Daubert] dealt specifically with the admissibility of scientific evidence”).
92 See Needham, supra note 3, at 351.
93 82 F.3d 1513 (10th Cir. 1996), cert. denied, 519 U.S. 1042 (1996).
94 See id. at 1519.
95 See id.
and that Daubert “had little bearing” on nonscientific expert testimony.\textsuperscript{96}

These four trends illustrate the lack of uniformity that results when courts are left without guidance on issues as challenging as the admissibility of expert testimony. Without instruction as to the means for applying the Daubert rule to nonscientific evidence, the courts employed different methods for evaluating evidence. The courts also struggled to distinguish scientific from nonscientific evidence, a task that in some cases is nearly impossible.\textsuperscript{97} Eventually recognizing this, the Supreme Court attempted to address these inconsistencies in \textit{Kumho Tire Co. v. Carmichael}.\textsuperscript{98}

II. THE \textit{KUMHO TIRE CO. V. CARMICHAEL} DECISION

On July 6, 1993, a fatal car accident occurred when the rear passenger tire of a minivan driven by Patrick Carmichael blew out. The Carmichaels brought a diversity suit against the tire maker and its distributor (collectively known as “Kumho Tire”), asserting the tire was defective.\textsuperscript{99} The undisputed cause of the blowout was tire separation, which occurs when the tread of a tire separates from the inner steel-belted carcass.\textsuperscript{100} The plaintiffs rested heavily on the expert testimony of Dennis Carlson Jr., an engineer and tire consultant.\textsuperscript{101} According to Carlson, the separation in this case was likely the result of one of two causes: “overdeflection” or a defect in the tire.\textsuperscript{102} Overdeflection is a type of tire misuse that occurs when a tire is underinflated.\textsuperscript{103} The result of overdeflection is too much weight on the tire, thereby generating heat that causes the tire’s chemical bond to breakdown.\textsuperscript{104} Carlson theorized that if the cause of the tire blowout was overdeflection, four possible physical symptoms would be present upon examination of the tire including: (1) greater treadwear on the tire’s shoulder than center; (2) signs of bead groove; (3) signs of deterioration on the sidewalls of the tire; and (4) marks on the rim flange of the tire.\textsuperscript{105} Carlson opined further that unless at least two of the

\textsuperscript{96} See id. Nevertheless, the court still concluded that the expert was qualified to testify under Rule 702 because of his experience and training, not scientific principles. See id.

\textsuperscript{97} See infra text accompanying notes 120, 140.


\textsuperscript{99} See id.

\textsuperscript{100} See id.

\textsuperscript{101} See id. The District Court had no doubt as to Carlson’s credentials, which included a master’s degree in mechanical engineering, ten years work experience at Michelin America, Inc., and previous testimony as a tire consultant. See id. at 1176.

\textsuperscript{102} See id.

\textsuperscript{103} See id.

\textsuperscript{104} See id.

\textsuperscript{105} See id.
four symptoms were not present, then a manufacturer or design defect must have caused the separation.106

The defendants moved to exclude Carlson's testimony because his unique methodology failed to meet the reliability requirement of Rule 702 as enunciated in Daubert.107 The district court agreed with the defendant that it had a duty to act as a gatekeeper, even though Carlson's testimony was technical rather than scientific, and concluded that the testimony failed to satisfy the reliability factors of Daubert.108 The court granted the defendants' motion for summary judgement and the plaintiffs requested reconsideration, contending that the court's application of Daubert was too inflexible.109 Upon reconsideration, the court agreed that Daubert should be applied more liberally, but concluded that the testimony still lacked sufficient reliability and affirmed its earlier decision.110 The Eleventh Circuit reviewed the district court's legal decision de novo and reversed.111 The appellate court emphasized that the Daubert court explicitly limited its holding to evidence based on scientific principles rather than nonscientific testimony such as Carlson's.112 As such, the appellate court concluded the district court erred in applying Daubert at all, as Carlson's testimony was beyond the scope of the Daubert decision.113 The plaintiffs appealed the exclusion of their expert testimony and the Supreme Court granted certiorari.

In a majority opinion authored by Justice Breyer, the Court finally answered Chief Justice Rehnquist's concerns in Daubert. The Court held that the gate-keeping duties of the trial judge applies not only to scientific expert testimony, but to all expert testimony.114

There were several parts to the Court's reasoning. Justice Breyer first pointed to the language of Rule 702.115 The rule itself makes no

106 See id. at 1172. Carlson conceded that: (1) the tire showed greater wear on the shoulder than the center, (2) there were some signs of bead groove, (3) the tire showed some discoloration, (4) there were marks on the rim flange, and (5) there were two punctures in the tire that were inadequately repaired (which may also cause the type of heat that results in separation). See id. at 1172-73. However, Carlson argued that these symptoms were not significant and were not the cause of the separation. See id. at 1173.
107 See id. at 1172. Carlson's testimony was also challenged because it assumed certain background facts in dispute. See id. at 1171-72. For example, he assumed the tire had put on a significant amount of miles before the accident, but in fact, the definitive evidence suggested that the Carmichaels had put on 7,000 miles in the two months they owned the used minivan. See id. at 1172.
108 See id. at 1173.
109 See id.
110 See id.
113 See id.
114 See id. at 1174.
115 See id.
distinction between "scientific" knowledge and "technical" or "other specialized" knowledge; rather, the Rule's reliability standard applies to all expert testimony that falls within its scope.116 According to Justice Breyer, the word "knowledge" in the rule, not "scientific, technical or other specialized," establishes the standard of evidentiary reliability.117 Daubert was only limited to scientific testimony "because that was the nature of the expertise at issue."118 More significantly, the majority concluded the evidentiary rationale that underscored the Court's gatekeeping determination in Daubert was not limited to scientific knowledge.119 Rules 702 and 703 permit experts to testify to their opinions, including ones not based on firsthand knowledge, subject to the knowledge and experience of their discipline.120 Thus, the testimonial latitude applies to all experts, not solely scientific ones.121

Finally, Justice Breyer concluded that judges would not be able to uphold their gatekeeping responsibilities if there were a distinction between scientific and other types of expert testimony.122 There is no identifiable line between types of expert testimony and, in some cases, there is overlap between disciplines.123 The line would have to be eliminated for courts to properly carry out their duties. Thus, based on the language of the Rule itself, as well as the difficulty in distinguishing between scientific and nonscientific evidence, the Court concluded that the Daubert test applies to all types of expert testimony.

The majority also addressed the issue of whether a trial judge may consider the factors set forth in Daubert when evaluating the reliability of nonscientific expert testimony124 and decided this issue in the affirmative. The majority stated that under Daubert, the Rule 702 inquiry is a "flexible one" and the factors are not a "definitive checklist or test."125 Instead, the inquiry of the judge should be based on the facts of each case.126 Justice Breyer wrote:

116 See id.
118 See Kumho Tire v. Carmichael, 119 S. Ct. 1167, 1174 (1999); see also Daubert, 509 U.S. at 590 n.8.
119 See Kumho Tire, 119 S. Ct. at 1174.
120 See id.
121 See id.
122 See id.
123 See id. at 1175 (concluding that the line between scientific and nonscientific evidence is unclear and "conceptual efforts to distinguish the two are unlikely to produce clear legal lines capable of application in particular cases").
124 See id.
125 See id.
126 See id.
The conclusion, in our view, is that we can neither rule out, nor rule in, for all cases and for all time the applicability of the factors mentioned in Daubert, nor can we now do so for subsets of cases categorized by category of expert or by kind of evidence. Too much depends upon the particular circumstance of the particular case at issue.\footnote{Id. at 1176.}

Thus, to the extent it is helpful, a trial court may, but need not necessarily, use the four-factor test set forth in Daubert.\footnote{The majority stated: [W]e conclude that the trial judge must have considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable. That is to say, a trial court should consider the specific factors identified in Daubert where they are reasonable measures of the reliability of expert testimony. The trial court must have the same kind of latitude in deciding how to test an expert's reliability, and to decide whether or when special briefing or other proceedings are needed to investigate reliability, as it enjoys when it decides whether that expert's relevant testimony is reliable. Id.}

The Kumho Tire Court also noted that trial judges should be given "considerable leeway" in determining how to assess an expert's reliability and whether special proceedings are required to investigate that reliability.\footnote{See id.} Presumably, this means that a trial judge is entitled to use factors of his own choosing, depending on the specifics of the case, to determine an expert's reliability. Moreover, the decision by a trial judge to permit or exclude an expert's testimony is subject to an abuse of discretion standard.\footnote{See id. at 1177.} The Court intended this standard to assure that a trial judge would have the authority to avoid undue expense or delay in determining an expert's reliability.\footnote{See id.}

In the immediate case, the Court held that the trial court's findings that Carlson's methodology was neither reliable nor beyond "the range where experts might reasonably differ," was reasonable and justified.\footnote{See id.} The specific issue, the Court asserted, was not the general reasonableness of a tire expert's visual and tactile inspection to determine whether a tire was defective.\footnote{See id. at 1177.} Rather, the specific issue was the reasonableness of this approach coupled with Carlson's two-factor test for analyzing the data.\footnote{See id. at 1177-78 ("The relevant issue was whether the expert could reliably determine the cause of this tire's separation.").}

\footnote{Id. at 1176.}

\footnote{The majority stated: [W]e conclude that the trial judge must have considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable. That is to say, a trial court should consider the specific factors identified in Daubert where they are reasonable measures of the reliability of expert testimony. The trial court must have the same kind of latitude in deciding how to test an expert's reliability, and to decide whether or when special briefing or other proceedings are needed to investigate reliability, as it enjoys when it decides whether that expert's relevant testimony is reliable. Id.}

\footnote{See id.}

\footnote{See id.}

\footnote{See id. at 1177.}

\footnote{See id. at 1177-78 ("The relevant issue was whether the expert could reliably determine the cause of this tire's separation.").}
or that tire experts in Carlson’s position normally made finite distinctions such as the ones Carlson based his theory upon. Nor does any other individual make reference to or support Carlson’s theory in articles or papers, despite the prevalence of tire testing. In sum, the Court agreed with the district court that Carlson’s methodology failed to meet the standard in Daubert and no countervailing factor counseled for admissibility. Hence, the Court reversed the judgment of the appellate court and affirmed the discretionary authority of the district judge to determine the reliability of expert testimony based on the particular facts of a case, subject to review for abuse of discretion.

III. APPLYING KUMHO TIRE IN THE REAL WORLD: THE PRACTICAL EFFECTS OF THE COURT’S DECISION

In Kumho Tire, the majority attempted to solve the inconsistency that resulted from Daubert by abolishing the distinction between scientific and nonscientific evidence under Rule 702. Yet, while attempting to solve one problem, the Court created others. The decision failed to provide a standard for the reliability of nonscientific expert testimony and a means for evaluating that reliability. This leaves trial judges in a quandary by requiring them to evaluate the reliability of nonscientific expert testimony, but providing no means for accomplishing the task.

A. The Shortcomings of the Court’s Decision

The first problem with the Kumho Tire decision is that it failed to establish a standard of reliability for nonscientific expert testimony. In Daubert, the Court concluded that an expert’s testimony must be based on scientific knowledge in order to meet the “standard of evidentiary reliability.” When scientific evidence is at issue, the trial judge examines only the “scientific validity” of the “principles and methodology” used by the proposed expert, not the conclusions them-

135 See id. at 1178.
136 See id.
137 See id.
138 See id. at 1179.
139 See id. at 1179.
140 See Daubert v. Merrill Dow Pharm., 509 U.S. 579, 590. ("The adjective ‘scientific’ implies a grounding in the methods and procedures of science. Similarly, the word ‘knowledge’ connotes more than subjective belief or unsupported speculation.").
To be valid, scientific knowledge must be derived from the scientific method, which is based on principles of Newtonian science that ensure the validity of the scientific methodology by validation and re-testing. Thus, scientific expert testimony that is supported by appropriate validation has a heightened likelihood of reliability, and that reliability, in turn, helps to ensure that scientific evidence which carries an aura of infallibility will not unjustifiably effect the judge, jury or outcome of a trial.

The Newtonian method, however, cannot ensure the reliability of nonscientific evidence. Opinions and theories founded on nonscientific conclusions do not lend themselves to validation by the Newtonian process. Rather, they generally utilize an analysis based on experience or specialized knowledge, often subjective, and not susceptible to re-testing. For instance, it is not possible for one expert to validate another’s opinion on the modus operandi of a drug dealer. Both experts have different subjective interpretations of what they observe and both will use different experiences when interpreting those observations. These experiences and observations cannot be retested for accuracy or duplicated in a laboratory.

Nevertheless, if the reliability requirement of Rule 702 is implicit in the term “scientific knowledge,” then there must be some equivalent requirement for nonscientific expert testimony in the terms “technical knowledge” and “specialized knowledge.” Such a basis is essential to guarantee that nonscientific expert testimony meets the

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141 See supra text accompanying note 48.
142 See Imwinkelried, supra note 2, at 2283-84. It is commonplace for one laboratory to double-check the accuracy of another’s testing by attempting to duplicate the results. See id. at 2284-85. This method is also known as external proficiency testing. See id; see also J. Brook Latham, The “Same Intellectual Rigor” Test Provides an Effective Method for Determining the Reliability of All Expert Testimony, Without Regard to Whether the Testimony Comprises “Scientific Knowledge” or “Technical or Other Specialized Knowledge,” 28 U. MEM. L. REV. 1053, 1064-65 (1998) (“The hallmark of a scientific principle is its falsifiability, i.e., its amenability to being tested to see if it is false . . . . What distinguishes scientific from nonscientific expert testimony is the former’s application of general scientific (i.e., falsifiable) principles to the specific facts of a case. The reliability of scientific testimony depends, in turn, on whether the general principles applied by the expert have been validated through appropriate testing.”).
143 See Imwinkelried, supra note 2, at 2284.
144 See Latham supra note 142, at 1065. This is not to suggest that scientific principles are never play in a nonscientific experts opinion, just not the basis of the testimony. For instance, a beekeeper that has observed countless bee flights can certainly testify as to his opinion as to why bees take off into the wind. Clearly, there is a valid scientific reason for this behavior, but that is not the basis of the testimony. See id. at 1065-1067 (citing Berry v. City of Detroit, 25 F.3d 1342, 1350 (6th Cir. 1994). This, in fact, was the Eleventh Circuit’s decision in Kumho Tire. That court concluded that while the laws of physics and chemistry were underlying Calson’s testimony, his opinion was based on his experience with failing tires. See Carmichael v. Samyang Tires, Inc., 131 F.3d 1433, 1436 (1997), overruled by Kumho Tire Co. v. Carmichael, 119 S. Ct. 1167 (1999).
145 See Tamarelli, supra note 5, at 1195.
requirements of Rule 702. The Court, however, provides no such standard. Instead, the majority attempted to sidestep this issue by stating that the reliability requirement is found in the word “knowledge,” not “scientific knowledge.” However, without further definition, this standard is insufficient because it offers trial judges no basis by which to measure the reliability of a nonscientific expert. This leaves trial judges in the dark without a method or means of determining whether such testimony meets the requirements of the Federal Rules of Evidence, and increases the possibility that either junk science will be inadvertently admitted by a trial judge or reliable testimony will be excluded.

Second, even assuming the Court was correct that knowledge in a particular field, scientific or nonscientific, is sufficient to form the basis for the reliability requirement of Rule 702, the Court failed to devise a proper means for evaluating that expert’s knowledge. In Daubert, the Court identified four factors for trial judges to consider when evaluating scientific knowledge: whether the theory or technique has been tested, whether it is subject to peer review and publication, the known or potential rate of error, and whether there is general acceptance of the theory or technique. The four factors in Daubert were devised to provide guidance for trial judges when analyzing expert testimony based on science. Each factor is geared toward evaluating scientific methodology. Upon closer examination, it is clear that those factors do not provide an accurate test for nonscientific testimony. Nonscientific expert testimony is not based on the scientific method, and attempting to utilize those factors to evaluate knowledge not based on the scientific precept will be unsuccessful.

146 See Kumho Tire, 119 S. Ct. at 1174. The Court stated the Rule 702 makes no relevant distinction between scientific knowledge and other types, and that any type of knowledge may be the basis of expert testimony. Id. (“Neither is the evidentiary rationale that underlay the Court’s basic Daubert ‘gatekeeping’ determination limited to ‘scientific’ knowledge. Daubert pointed out that Federal Rules 702 and 703 grant expert witnesses testimonial latitude unavailable to other witnesses on the ‘assumption that the expert’s opinion will have a reliable basis in the knowledge and experience of his discipline.’”). While it is true that Rules 702 and 703 provide latitude for testifying experts, the Court’s analysis is incomplete. That latitude provided under Rules 702 and 703 cannot provide for the reliability of nonscientific expert testimony. First, Rule 702 requires that expert testimony be reliable but does not provide a standard of reliability. Second, Rule 703 permits experts to testify based on information of the type reasonably relied upon by experts in their field, but makes no mention of the reliability of that information. Therefore, the Court’s analysis is useful, but incomplete.

147 See Imwinkelried, supra note 2, at 2283 (arguing that “[n]either the essential test enunciated in Daubert, nor the factors listed by the Court are applicable to nonscientific opinion”).

148 See id.

149 See Daubert v. Merrill Dow Pharm., 509 U.S. 579, 592-93 (1992) (“Faced with a proffer of expert testimony, then, the trial judge must determine... whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue.”).
An example is illustrative. Prior to *Kumho Tire*, the Sixth Circuit attempted a literal application of the *Daubert* factors to the expert testimony of a police officer. In *Berry v. City of Detroit*, an action was brought against Officer Joseph Hall for improper use of deadly force, and the City of Detroit for failing to properly train its police officers. Lee Berry, Jr., the decedent, was driving his van when he was stopped by Officer Hall for committing several misdemeanor traffic violations. While the actual events that occurred after Berry was pulled over were in dispute, it was undisputed that a struggle ensued during which Hall shot Berry in the back. At trial, Hall claimed that Berry attacked him, and that he accidentally shot him during the struggle, however, the Plaintiff’s expert contested Officer Hall’s version of the facts. The jury returned a verdict for the plaintiff for six million dollars.

On appeal, the court expressed grave concerns about the qualifications of the plaintiff’s expert, although his credentials included a degree in sociology, a masters degree in education, work experience as deputy sheriff and a sheriff, and experience administering a number of seminars on police management. In his testimony, the expert asserted that the events could not have happened as Officer Hall described, and that the City failed to properly train and discipline its officers. In holding that the expert was not reliable, the Sixth Circuit concluded that *Daubert’s* gatekeeping function applies to all expert testimony, and attempted to utilize the *Daubert* factors. First, the court asserted that there had been no testing of the expert’s discipline theory. Second, there was no evidence in the record to reveal that there had been a peer review or publication of the theory. Finally, the court pointed out that there was no evidence the expert’s theory was generally accepted in the expert’s field. Based on the expert’s failure to meet any of these criteria, the court excluded the testimony.

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150 25 F.3d 1324 (6th Cir. 1994).
151 See id. at 1344.
152 See id.
153 See id.
154 See id.
155 See id.
156 See id. at 1348 ("As we view the record, Postill did not have the qualifications to testify as an expert on this question, and, if he did, no proper foundation was laid for his ultimate opinion.").
157 See id. at 1343.
158 See id. at 1349.
159 See id. at 1350.
160 See id.
161 See id. (making no finding regarding the final *Daubert* factor: known or potential rate of error).
The *Berry* decision illustrates the difficulties of applying the *Daubert* test to nonscientific expert testimony. The expert in *Berry* was a former sheriff with a substantial amount of education and experience in law enforcement. His opinion was based on his education and personal experience in law enforcement. Yet, such a basis for expert testimony defies an application of *Daubert*. The expert's opinion simply was not quantifiable under *Daubert*. This, however, does not mean the testimony was not reliable. For example, does a police detective that specializes in undercover drug work with 30 years experience have a testable hypothesis regarding his observations about the actions of drug dealers? Probably not, but he certainly has a wealth of experience that may be both relevant and reliable to a criminal trial. Similarly, it is unlikely that an experienced mechanic that has worked on hundreds of faulty brakes has published a paper on the topic. Nevertheless, his testimony is likely to be reliable and relevant in a products liability trial regarding faulty brakes. In both cases, the expert's testimony would be based on years of experience and personal knowledge, and this testimony, while perhaps not quantifiable under *Daubert*, may nevertheless be reliable.

By either ignoring or overlooking the shortcomings of the decision, the Court passed the burden of evaluating nonscientific expert testimony to trial judges. The Court stated: "The trial court must have the same kind of latitude in deciding how to test an expert's reliability, and to decide whether or when special briefing or other proceedings are needed to investigate reliability, as it enjoys when it decides whether or not that expert's relevant testimony is reliable."162 This leaves trial judges with the difficult task of evaluating experts without a reliable means for accomplishing that task.

**B. Judicial Anarchy: The Result of Leaving too Little Guidance and too much Discretion to Trial Judges**

The Court's holding in *Kumho Tire* will lead to a number of problems. The first stems from the Court's failure to properly identify a standard of reliability for nonscientific expert testimony or define the term "knowledge." Trial judges will have no analog to the scientific method to measure the reliability of nonscientific evidence. Without guidance as to a method a nonscientific expert must use to ensure the reliability of his testimony, the Court opened the proverbial floodgates to the admission of unreliable testimony.

While the fear of junk science based on nonscientific evidence is less pronounced than that based on scientific evidence, it still presents

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a very real threat.\textsuperscript{163} In fact, because nonscientific evidence is not based on the scientific method, the threat may be greater.\textsuperscript{164} As previously stated, the results of nonscientific evidence cannot generally be duplicated, further calling into question the accuracy of those opinions.\textsuperscript{165} This fact is especially true in the area of social sciences.\textsuperscript{166} For instance, in social science research there is a great potential for bias because results are based on human beings studying human beings creating a greater likelihood for human error or subjective interpretation of the results.\textsuperscript{167} In addition, social science research creates a number of methodology problems, perhaps greater than other nonscientific disciplines.\textsuperscript{168} Social science hypotheses are not testable, and many of the studies use small and unrepresentative samples that are often presented without helpful comparison.\textsuperscript{169} Clearly, without any direction on what standard nonscientific experts must meet, trial courts will doubtlessly be forced to make decisions that ultimately exclude reliable experts or admit unreliable ones.

A second problem results from the Court's decision to give trial judges discretion in determining how to evaluate nonscientific evidence. A judge struggling to determine whether to permit an expert to testify on a nonscientific theory will first consult the standard set forth in \textit{Daubert}. If the evidence is nonscientific, the \textit{Daubert} standard will be inapplicable. Under \textit{Kumho Tire}, however, the judge will still have a duty to determine its admissibility. With no further guidance, each judge will make an individualized decision based on the factors he deems important. This widespread individualized decision making will lead to two problems.

First, judges may abuse or "misuse" their discretion. Each Circuit may use different factors, in addition to or in place of the \textit{Daubert} factors, to resolve the issue of whether a particular expert will be

\textsuperscript{163} See Imwinkelried, supra note 2, at 1121; see also Michael Rustad & Thomas Koeing, \textit{The Supreme Court and Junk Social Science: Selective Distortion in Amicus Briefs}, 72 N.C.L. Rev. 91, 128 (1993) (conducting a review of the way partisan organizations distort social science evidence in amici briefs submitted to the Supreme Court and concluding that "junk social science is characterized by quotes from social scientific research taken out of context, misleading statistical presentations, denigration of studies whose results conflicted with the argument, and anecdotes masquerading as social science").

\textsuperscript{164} See Imwinkelried, supra note 2, at 2279.

\textsuperscript{165} See id. at 2280.

\textsuperscript{166} See Laura Etlinger, \textit{Social Science Research in Domestic Violence Law: A Proposal to Focus on Evidentiary Use}, 58 Alb. L. Rev. 1259 (1995) (providing an in depth study of the use and reliability of social science expert testimony in domestic violence cases and stating that there are a number of problems with the use of social science research by courts including research and judicial bias, natural tension between science and the adversary system, inherent problems with social science methodology and limitations of existing evidence rules).

\textsuperscript{167} See id. at 1276-79.

\textsuperscript{168} See id. at 1279.

\textsuperscript{169} See id.
permitted to testify. Some may make their decision based on the expert's experience and education, while others may place more weight on the expert's credibility. Other judges may place more emphasis on countervailing, but equally unscientific, views in the field. It should be recalled that after Daubert, each court employed a somewhat different means for determining the admissibility of nonscientific expert testimony. These phenomena will reoccur after Kumho Tire because the decision makes it unclear to parties, attorneys and even judges what factors and criteria are necessary to use nonscientific expert testimony.

Another problem that could stem from individualized decision-making is that judges may take the opposite approach. Rather than use many different factors for evaluating the admissibility of an expert's testimony, judges may simply conduct an "overview" of expert's testimony. If the testimony seems reliable or generally acceptable, the court should permit the expert to testify. This method would be similar to the Frye test, which based admissibility on whether the principle used by the expert was generally accepted in the relevant field of study. Much like the Frye test, it would have several shortcomings. For example, this method would not have identifiable boundaries, thus leaving unclear what credential an expert must possess to be able to testify on a nonscientific topic. Another potential problem that may occur from using this "overview" approach would be the exclusion of testimony regarding novel or developing theories because there is little information on which to base reliability.

These are only a few of a number of problems that will occur as a result of the Court's decision. The Court gave trial judges too much discretion on a topic they know little about, with no guidance for making the admissibility decisions. The result will undoubtedly be rampant individualized decision-making; judges will apply a number of different criteria or general principles to decide whether to permit a nonscientific expert to testify. The source of these problems is the Court's failure to adequately address the reliability prong of Rule 702. Consequently, the solution lies in rethinking and reworking that part of the decision.

170 See supra Part I.C.
171 See supra Part I.A.
172 See supra text accompanying notes 27, 28.
173 See id.
174 See id.
C. A Brief Solution to a Difficult Problem

The Supreme Court must rethink its decision in *Kumho Tire*. The decision has left judges without a consistent or dependable standard for determining the reliability of nonscientific expert testimony. To do this, the Court must first define the term “knowledge” in Rule 702. A standard must be set for technical or other specialized knowledge to provide judges with a measuring stick to determine what standard an expert testifying based on those disciplines must meet before testifying.

Scientific experts are permitted to testify if the method they used to form their opinion is scientifically sound. Similarly, nonscientific experts should only be permitted to testify if the means by which their opinions are drawn are also sound. However, because the scientific method is not a workable means for evaluating nonscientific expert testimony, another standard must be devised as a parallel to the scientific method, but tailored specifically for “nonscientific knowledge.” Nonscientific expert testimony generally draws on the expert’s personal experience, training and skills. Thus, the standard must evaluate the means by which the expert reaches his conclusions. This Comment suggests that the standard of reliability be based both on the degree to which the expert is qualified through his education, credentials, skills, and experience, and, where applicable, the method by which he derived those conclusions. At first glance, this standard appears to feed into the notion that the party with the expert who has the most impressive credential will always prevail. Therefore, for this standard to be effective, it is essential that the factors that courts use to evaluate experts focus on more than just an expert’s degrees and awards.

The factors used to evaluate the reliability of nonscientific expert testimony based on the above definition must, like scientific expert testimony, focus on the methodology or process by which the conclusion was formed. In some cases, the *Daubert* factors may be useful. Generally, however, the factors do not seem to fairly evaluate the reliability of nonscientific expert testimony. Nonscientific expert testimony is generally derived from personal experience or expertise in a particular field. Therefore, the factors must require judges to ex-

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175 See supra text accompanying note 48.
176 See supra text accompanying note 5.
177 See Imwinkelried, supra note 2, at 2289 (“Experience is to nonscientific experts as experimentation is to scientists. [n]onscientific experts are ‘experientially qualified.’ Their experience largely is their expertise.”) (citations omitted); see also Laser, supra note 64, at 1415 (“Many nonscientific experts derive their expertise from years of experience in a particular field.”).
amine: (1) the expert's credentials, (2) whether the data the expert used to formulate his opinion was the type reasonably used by other experts in the field, and (3) the methodology, if any, used by the expert. Thus, additional or alternative factors are necessary for courts to consider when evaluating this type of evidence. Like the Daubert test for scientific expert testimony, the factors identified by the Court should not be an exhaustive checklist, but a starting point that will help guide trial courts. Such a list should only be devised after substantial research in a variety of nonscientific areas, however, this Comment makes some suggestions that may be worthy of consideration. In addition to the four factors of Daubert, when they are applicable, those factors may include: (1) the depth of the expert's education, training or experience in the area; (2) the data from which the expert derived his conclusions; (3) reenactments or simulations of the expert's methodology; (4) the existence of specialized literature dealing with the theory; (5) the extent to which the basic data may be verified by court and jury; and (6) the availability of other experts to evaluate the explanatory theory.

Certainly, there is some overlap between these proposed factors and the Daubert test. However, the factors ultimately employed

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178 The Court's reference to Rule 703 was not an error. However, the requirement that experts only testify based on data reasonably relied upon by other experts in the field is only one of the criteria a court should review when examining the reliability of a nonscientific expert. See Laser, supra note 64, at 1415 (asserting that when assessing the reliability of a nonscientific expert, "[t]he court would have to determine whether the expert's past experiences are sufficient in quantity and quality to constitute reliable data on which the expert can base the conclusions"); Lathram, supra note 142, at 1055 (advocating the "Same Intellectual Rigor Test" which would admit all types of expert testimony as reliable if: "The testimony of an otherwise qualified expert is reliable, for purposes of Rule 702, when the expert has, in developing the opinions she seeks to express in court, adhered to the same standards of intellectual rigor that are demanded by her professional work"); see also Cook v. American S.S. Co., 53 F.3d 733, 738-39 (5th Cir. 1994) (excluding rope testing expert's testimony because there was no basis for his opinion).

179 There are times when a nonscientific expert uses a methodology and that methodology can be examined by the Court. For instance, the Court in Kumho Tire provided an example of when the Daubert factors would be applicable to the testimony of a nonscientific expert. "[Like an engineer], it will at times be useful to ask even of a witness whose expertise is based purely on experience, say, a perfume tester able to distinguish among 140 odors at a sniff, whether his preparation is of a kind that others in the field would recognize as acceptable." Kumho Tire Co. v. Carmichael, 119 S. Ct. 1167, 1176 (1999). Thus, in some circumstances a court will be able to evaluate an expert's methodology. See, e.g., Frymire-Brinati v. KPMG Peat Marwick, 2 F.3d 183, 186-87 (7th Cir. 1993) (excluding the testimony of a well-credentialed accounting expert because the method he used to reach his conclusion was unsound).

180 Realistically, though, it is essential for the Court to identify factors for evaluating nonscientific expert testimony because trial courts often employ only those factors when making a determination. Thus, while it is important to leave the door open for special circumstances, it is also important to lessen the burden on trial judges and accept the fact that the gate-keeping analysis often stops after the factors have been utilized.

must be tailored specifically to “technical or other specialized knowledge” in order to fairly evaluate testimony in those areas of expertise. Whatever factors used, they must be identified by the Court and clearly defined to avoid inconsistent use. The test must be revised to appeal to the very nature of this type of testimony. The standard must be broader and less rigid than the scientific method, but also sufficient to keep junk science out of the courtroom.

CONCLUSION

The Supreme Court’s decision in *Kuhmo Tire Co. v. Carmichael* was a long time coming, but fell short of its mark. The Court’s decision failed to make a positive change in the law because it did not provide a sufficient basis for trial judges to evaluate the reliability of nonscientific expert testimony. As a result of the Court’s omission, trial judges are left in a precarious situation. By asserting that the *Daubert* test and its four-factor analysis is applicable to nonscientific evidence, the Court has required federal judges to apply a standard that simply is not applicable; the decision forces a square peg in a round hole. This leaves the future of nonscientific expert testimony in a state of uncertainty. Each judge will likely employ his own criteria for determining admissibility, leading to a variance among the federal circuits and a lack of predictability for litigants. Essentially, the Court has opened the door by allowing the use of the *Daubert* test when evaluating nonscientific evidence, but has kept the lights off by not providing a cognizable means for applying it.

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