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INCONSISTENT GATEKEEPING IN FEDERAL COURTS: APPLICATION OF *DAUBERT v. MERRELL DOW PHARMACEUTICALS, INC.* TO NONSCIENTIFIC EXPERT TESTIMONY

I. INTRODUCTION

With the rise in the use of expert testimony in federal courts, judges are increasingly called upon to rule on the difficult issue of admissibility.¹ The appropriate standard for admissibility of expert testimony has always been a matter of great debate, and disputes on the issue continue today.² The landmark Supreme Court decision in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*³ reflects an attempt to bring clarity to this controversial area of evidence law.⁴ The Court resolved a conflict among lower courts with regard to the admission of *scientific* expert testimony by holding that the Federal Rules of Evidence⁵ (Evidence Rules) superseded a well-established common law rule.⁶ The decision also created a framework for the application of the Evidence Rules to scientific expert testimony.⁷ However, in resolving one controversy the Court created another. By focusing on the standard for admissibility of scientific expert testimony, the *Daubert* decision created significant ambiguity in the admissibility standard for other types of expert testimony governed by the Evidence Rules.⁸ As a result, the cir-

1. See *Developments in the Law: Confronting the New Challenges of Scientific Evidence*, 108 HARV. L. REV. 1481, 1509 (1995) [hereinafter *Developments*].

2. See *id.*; see also Michael C. Polentz, Comment, *Post-Daubert Confusion with Expert Testimony*, 36 SANTA CLARA L. REV. 1187, 1187 & n.1 (1996).

3. 509 U.S. 579 (1993).

4. See *id.* at 585 (“We granted certiorari, in light of sharp divisions among the courts regarding the proper standard for the admission of expert testimony.” (citation omitted)).

5. The Federal Rules of Evidence were adopted in 1975. Act of Jan. 2, 1975, Pub. L. No. 93-595, 88 Stat. 1926 (codified as amended at 28 U.S.C. app. (1994)).

6. See *Daubert*, 509 U.S. at 589 & n.6.

7. See *id.* at 589-94.

8. See *id.* at 600 (Rehnquist, C.J., concurring in part and dissenting in part).

cuit courts are now split on whether and how to apply *Daubert's* principles to nonscientific expert testimony proffered in federal courts.⁹

Courts have always treated the admission of scientific expert evidence differently from other types of expert evidence. In determining the admissibility of nonscientific expert testimony, courts have traditionally focused on the expert's qualifications and the helpfulness of the testimony to a jury, omitting an inquiry into the reliability of the testimony.¹⁰ In contrast, courts have subjected scientific expert testimony to a stricter standard.¹¹

After the *Frye v. United States*¹² decision in 1923, most federal courts¹³ required the party offering scientific expert testimony to establish that the expert's theory was generally accepted within the relevant scientific community.¹⁴ The enactment of the Evidence Rules in 1975¹⁵ called into question the continued viability of the "general acceptance" test.¹⁶ Under a literal reading of Rule 702 of the Evidence Rules, a judge may admit the testimony of a qualified expert if the testimony will help the jury understand the evidence and determine the facts in the case.¹⁷ Neither the text of Rule 702 nor its legislative history mentions the general acceptance test.¹⁸ Therefore, some courts concluded that Rule 702 had superseded *Frye*,¹⁹ while others continued to require general accep-

9. See *supra* Part III.

10. See Edward J. Imwinkelried, *The Next Step After Daubert: Developing a Similarly Epistemological Approach to Ensuring the Reliability of Nonscientific Expert Testimony*, 15 CARDOZO L. REV. 2271, 2281 (1994); John William Strong, *Language and Logic in Expert Testimony: Limiting Expert Testimony by Restrictions of Function, Reliability, and Form*, 71 OR. L. REV. 349, 361-62 (1992).

11. See Strong, *supra* note 10, at 362.

12. 293 F. 1013 (D.C. Cir. 1923).

13. See 1 PAUL C. GIANNELLI & EDWARD J. IMWINKELRIED, SCIENTIFIC EVIDENCE § 1-5, at 9 & nn.53-55 (2d ed. 1993).

14. See *Frye*, 293 F. at 1014. This principle came to be known as the "general acceptance" test. See *Daubert*, 509 U.S. at 585-86.

15. Act of Jan. 2, 1975, Pub. L. No. 93-595, 88 Stat. 1926 (codified as amended at 28 U.S.C. app. (1994)).

16. See *Daubert*, 509 U.S. at 587 n.5 (citing contradictory opinions on the survival of the *Frye* test expressed by the circuit courts and the leading evidence experts).

17. See FED. R. EVID. 702 ("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.").

18. See Jay P. Kesan, Note, *An Autopsy of Scientific Evidence in a Post-Daubert World*, 84 GEO. L.J. 1985, 1993 (1996).

19. See, e.g., *Douglass v. Hustler Magazine, Inc.*, 769 F.2d 1128, 1142 (7th Cir.

tance in the relevant scientific community as a condition for admissibility of scientific testimony.²⁰ In 1993 the Supreme Court resolved the question in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*²¹ The Court held that the Evidence Rules had superseded the *Frye* test.²²

In rejecting *Frye*, the *Daubert* Court formulated a new test for admissibility of expert testimony from the language of Rule 702.²³ The Court held that all expert testimony must be (1) relevant and (2) reliable.²⁴ In establishing the new test, the Court specifically focused on the words "scientific . . . knowledge" in Rule 702.²⁵ According to *Daubert*, scientific expert testimony must be based upon sound scientific methodology in order to be admissible.²⁶ In dicta, described as "general observations," the majority articulated four nonexclusive factors for determining scientific knowledge²⁷ and entrusted trial judges with the gatekeeping function of deciding whether expert evidence satisfies the *Daubert* test and thus qualifies for admission under Rule 702.²⁸

While resolving the *Frye* controversy over the need for general acceptance of scientific expert evidence,²⁹ the *Daubert* interpretation of Rule 702 left unanswered several important questions.³⁰ In his dissent Chief Justice Rehnquist expressed concern about questions that trial courts were certain to face when trying to decipher and apply the majority's dicta to proffered expert tes-

1985) ("Rule 702 of the Federal Rules of Evidence defines the scope of permissible expert testimony very broadly. The rule . . . indicate[s] that such testimony is admissible whenever it concerns a topic on which a lay jury would be assisted by such testimony"); see also 3 JACK B. WEINSTEIN ET AL., WEINSTEIN'S EVIDENCE, ¶ 702[03], at 702-44 & n.5 (1995) (discussing circuit cases rejecting the *Frye* standard).

20. See, e.g., *United States v. Christophe*, 833 F.2d 1296, 1299 (9th Cir. 1987) (holding that Rule 702 is not satisfied "[u]nless the testimony conforms to a generally accepted explanatory theory"); see also WEINSTEIN ET AL., *supra* note 19, ¶ 702[03], at 702-45 & n.7 (discussing circuit cases that continued to require "general acceptance" within the relevant scientific community).

21. 509 U.S. at 589.

22. See *id.* at 589 & n.6.

23. For the text of Rule 702, see *supra* note 17.

24. See *Daubert*, 509 U.S. at 589.

25. *Id.* at 589-90.

26. See *id.* at 590.

27. The *Daubert* factors include (1) the testability of the proffered theory, (2) its submission to peer review and publication, (3) the error rate, and (4) its level of general acceptance within a relevant scientific community. See *id.* at 593-94.

28. See *id.* at 589.

29. See *id.*

30. See *id.* at 600 (Rehnquist, C.J., concurring in part and dissenting in part).

timony:

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; does Rule 702 actually contemplate that the phrase “scientific, technical, or other specialized knowledge” be broken down into numerous subspecies of expertise, or did its authors simply pick general descriptive language covering the sort of expert testimony which courts have customarily received?³¹

This Comment proposes answers to some of the questions raised by Justice Rehnquist: What is the appropriate scope of *Daubert*? Should it be limited to scientific expert testimony or does it also apply to other types of expert evidence offered in federal courts? And, most importantly, if the *Daubert* opinion extends beyond the realm of scientific expert testimony, how should lower courts apply its mandates to “technical, or other specialized knowledge”; in other words, nonscientific expert testimony?

Part II of this Comment presents the background of the *Daubert* decision and a brief summary of the case. It also comments on the ambiguity surrounding *Daubert*'s scope and application. Part III contains a discussion of how federal courts have applied *Daubert* to nonscientific expert testimony. Part IV addresses the scope of *Daubert*. It first defines the word “science” as used by the *Daubert* Court. It then suggests extending *Daubert*'s reliability principles to all types of expert testimony, while limiting the application of its four-part test to scientific expert testimony. Finally, Part V proposes a framework for the analysis of nonscientific expert testimony in light of *Daubert*. It suggests a method of ensuring that all nonscientific expert testimony meets *Daubert*'s reliability requirement. It recommends that as gatekeepers, the trial courts should always look beyond experts' credentials and examine the data on which experts rely and the reasoning or methodology experts use in arriving at their conclusions.

31. *Id.* (Rehnquist, C.J., concurring in part and dissenting in part).

II. THE *DAUBERT* DECISION

Under Rule 702 of the Evidence Rules, a qualified expert witness may give opinion testimony that contains "scientific, technical, or other specialized knowledge" helpful to the trier of fact.³² A witness may be "qualified as an expert by knowledge, skill, experience, training, or education."³³ The drafters phrased the rule broadly so as to allow testimony based not only on scientific but "all 'specialized' knowledge."³⁴ Similarly, the scope of the rule extends beyond traditional experts, such as scientists, to the large number of so-called "skilled" witnesses, such as bankers and real estate owners.³⁵

A. *Pre-Daubert Interpretations of Rule 702: Nonscientific and Scientific Expert Testimony*

The traditional test for admissibility of nonscientific expert testimony under Rule 702 requires a "minimal showing" that "the witness qualifies as an expert and that the testimony will be helpful to the trier of fact."³⁶ Commentators described the Rule 702 standard as "very generous" and favoring the admissibility of all relevant testimony.³⁷ Professor Strong has called the traditional approach "laissez-faire" and attributed most of its development to Wigmore's famous test:³⁸ "On *this subject* can a jury receive from *this person* appreciable help?"³⁹ Similar to this test is Professor McCormick's "relevancy standard,"⁴⁰ which focuses on the relevancy of expert evidence as the "key to admissibility."⁴¹ Under

32. FED. R. EVID. 702.

33. *Id.*

34. FED. R. EVID. 702 advisory committee's note.

35. *See id.*

36. Imwinkelried, *supra* note 10, at 2281.

37. *See* Cathleen C. Herasimchuk, *A Practical Guide to the Admissibility of Novel Expert Evidence in Criminal Trials Under Federal Rule 702*, 22 ST. MARY'S L.J. 181, 207 (1990); *see also* WEINSTEIN ET AL., *supra* note 19, ¶ 702[02], at 702-36 to 702-37 ("Because of the Federal Rules' emphasis on liberalizing expert testimony, doubts about whether an expert's testimony will be useful should generally be resolved in favor of admissibility . . .").

38. *See* Strong, *supra* note 10, at 361.

39. 7 JOHN HENRY WIGMORE, *EVIDENCE IN TRIALS AT COMMON LAW* § 1923, at 29 (James H. Chadbourn rev., 1978).

40. *See* CHARLES T. MCCORMICK, *MCCORMICK ON EVIDENCE* § 203, at 604-10 (Edward W. Cleary ed., 3d ed. 1984). Professor McCormick stated that "[a]ny relevant conclusions supported by a qualified expert witness should be received unless there are distinct reasons for exclusion." *Id.* at 608.

41. Kesan, *supra* note 18, at 1994.

these traditional approaches, most courts determine the admissibility of expert testimony based on the specialized nature of the subject matter and the personal qualifications of the expert,⁴² without examining the reliability of the principles underlying the expert testimony.⁴³ The “weight” to be given to these principles and the expert testimony based upon them is then left to the jury.⁴⁴

Courts have not been as lenient in their approach to the admissibility of scientific expert evidence.⁴⁵ When the Evidence Rules were enacted in 1975,⁴⁶ most courts were following the general acceptance standard⁴⁷ articulated in *Frye v. United States*.⁴⁸ To be admitted into evidence under *Frye*, the proponent of a novel scientific theory had to establish its general acceptance within the relevant scientific community.⁴⁹ The adoption of the Evidence Rules caused an extensive debate among courts and commentators regarding the continuing viability of the *Frye* test.⁵⁰ The broad language of Rule 702 led some courts to interpret the rule as imposing no special reliability restriction on scientific expert testimony beyond the traditional relevancy, helpfulness, and qualification requirements applicable to all expert testimony.⁵¹ Most courts, however, continued to inquire into the reliability of novel scientific theories presented to the jury.⁵²

While assessing the credibility of a witness’s testimony has been traditionally the jury’s role,⁵³ this task becomes problematic

42. See Strong, *supra* note 10, at 362.

43. See *id.*; Imwinkelried, *supra* note 10, at 2281.

44. See Strong, *supra* note 10, at 364.

45. See *id.* at 362 (noting that the court’s treatment of scientific evidence stood in contrast to the standards for other types of expert testimony).

46. Act of Jan. 2, 1975, Pub. L. No. 93-595, 88 Stat. 1926 (codified as amended at 28 U.S.C. app. (1994)).

47. See GIANNELLI & IMWINKELRIED, *supra* note 13, at 9 & nn.53, 55.

48. 293 F. 1013 (D.C. Cir. 1923).

49. See *id.* at 8.

50. See Kesan, *supra* note 18, at 1993.

51. See Richard Nahas, Daubert v. Merrell Dow Pharmaceuticals, Inc. *Requiem For Frye: The Supreme Court Lays to Rest the Common Law Standard For Admitting Scientific Evidence in the Federal Courts*, 29 NEW ENG. L. REV. 93, 105 (1994); see also WEINSTEIN ET AL., *supra* note 19, ¶ 702[03], at 702-44 & n.5 (describing cases responding to the adoption of Rule 702 by rejecting the *Frye* standard).

52. See WEINSTEIN ET AL., *supra* note 19, ¶ 702[03], at 702-45 & n.6; Kesan, *supra* note 18, at 1995.

53. See *Developments*, *supra* note 1, at 1510-11 (“Traditionally, the judge rules on the admissibility and sufficiency of expert testimony, whereas the jury evaluates the testimony’s credibility and weight.” (footnote omitted)).

when novel scientific theories are involved.⁵⁴ Both courts and commentators have expressed doubts about jurors' abilities to assess complex scientific evidence.⁵⁵ One commentator stated that:

When the evidence is of technical nature, it may be unrealistic to expect juries to weigh scientific assessments based on the credibility of expert witnesses. Indeed, placing such demands on juries would violate Rule 403's standard of prejudice since the probative value of the evidence could be outweighed by the danger of confusion of the issues and the potential for misleading the jury.⁵⁶

The prevailing concern has been that jurors' lack of knowledge and training impedes their ability to assess scientific expert testimony on its merits and causes them to give the testimony too much weight.⁵⁷ These concerns have been bolstered by surveys showing that the majority of people serving on juries find paid experts believable, even though "a significant fraction of [their] expert testimony invites lay jurors to reach conclusions not grounded in any scientific theory or methodology."⁵⁸ These concerns have fueled the debate over whether the judge is better suited to evaluate the reliability of scientific expert testimony.⁵⁹

In response to doubts about jurors' ability to accurately weigh scientific expert testimony and calls for greater restrictions on admissibility of such testimony,⁶⁰ most courts assumed the role of gatekeeper and screened scientific testimony for reliability.⁶¹ While some courts continued to follow the *Frye* standard after the

54. See Kesan, *supra* note 18, at 1988; Nahas, *supra* note 51, at 107.

55. See *United States v. Amarel*, 488 F.2d 1148, 1152 (9th Cir. 1973) (stating that expert testimony has a great potential to influence a jury "because of its aura of special reliability and trustworthiness"); *Developments, supra* note 1, at 1511; Kesan, *supra* note 18, at 1988; Nahas, *supra* note 51, at 107.

56. Nahas, *supra* note 51, at 107.

57. See Kesan, *supra* note 18, at 1988 & n.13.

58. *Id.* at 1988.

59. See *Developments, supra* note 1, at 1510-11.

60. See Michael C. McCarthy, Note, "Helpful" or "Reasonably Reliable"? Analyzing the Expert Witness's Methodology Under Federal Rules of Evidence 702 and 703, 77 CORNELL L. REV. 350, 350 n.1 (1992); Ernest J. Getto & Cynthia H. Cwik, *Keep 'Junk' Science Off the Stand*, NAT'L L.J., April 19, 1993, at 15.

61. For a discussion of the reliability tests the courts used to evaluate the reliability of scientific evidence, see Kesan, *supra* note 18, at 1995-97; Nahas, *supra* note 51, at 108-10; Joseph B. Spero, Note, *Much Ado About Nothing—The Supreme Court Still Fails to Solve the General Acceptance Problem Regarding Expert Testimony and Scientific Evidence*, 8 J.L. & HEALTH 245, 254-60 (1993-94).

enactment of Rule 702, many courts began deviating from *Frye*,⁶² creating new reliability tests for scientific testimony.⁶³ Many courts focused on the reliability of the scientific technique, the legal relevance of the testimony, and its prejudicial effect on the jury.⁶⁴ Some courts included *Frye*'s general acceptance standard as one factor in their tests for admissibility.⁶⁵ Some courts specifically relied on the *Frye* rule,⁶⁶ while others explicitly ignored or rejected it.⁶⁷ As courts continued to treat the *Frye* standard in a contradictory fashion,⁶⁸ the Supreme Court stepped in to resolve the "divisions among the courts regarding the proper standard for the admission of expert testimony."⁶⁹

B. Majority Opinion in Daubert

In *Daubert v. Merrell Dow Pharmaceuticals, Inc.*⁷⁰ two minor children and their parents sued Merrell Dow Pharmaceuticals, alleging that the children's severe birth defects resulted from their mothers' ingestion during pregnancy of Bendectin, an antinausea drug marketed by Merrell Dow.⁷¹ The district court granted the defendant's motion for summary judgment on the basis of the defendant's expert testimony that no scientific study had found a significant relationship between Bendectin and birth defects.⁷² The

62. See Spero, *supra* note 61, at 254-55.

63. See Kesan, *supra* note 18, at 1995-97; Spero, *supra* note 61, at 254-60.

64. See Spero, *supra* note 61, at 254-60.

65. See, e.g., *United States v. Jakobetz*, 955 F.2d 786, 797-98 (2d Cir. 1992) (taking into consideration the general acceptance by experts in the field as a part of the admissibility analysis); *Christophersen v. Allied-Signal Corp.*, 939 F.2d 1106, 1110 (5th Cir. 1991) (combining Rule 702 with the *Frye* standard); *United States v. Downing*, 753 F.2d 1224, 1237-39 (3d Cir. 1985) (stating that the acceptance within the scientific community is one of the factors trial courts must consider in deciding the admissibility of the proffered scientific evidence).

66. See, e.g., *United States v. Christophe*, 833 F.2d 1296, 1299 (9th Cir. 1987) (holding that Rule 702 is not satisfied "[u]nless the testimony conforms to a generally accepted explanatory theory"); *United States v. McBride*, 786 F.2d 45, 49 (2d Cir. 1986) (holding that Rule 702 incorporates the *Frye* standard through its helpfulness requirement).

67. See, e.g., *Andrews v. State*, 533 So. 2d 841, 849-50 (Fla. Dist. Ct. App. 1988) (rejecting the *Frye* standard and favoring the test articulated in *Downing*).

68. See, e.g., *DeLuca v. Merrell Dow Pharmaceuticals, Inc.*, 911 F.2d 941, 955 (3d Cir. 1990) (rejecting the general acceptance standard); *United States v. Shorter*, 809 F.2d 54, 59-60 (D.C. Cir. 1987) (applying the general acceptance standard).

69. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 585 (1993).

70. 509 U.S. 579 (1993).

71. See *id.* at 582.

72. See *id.* at 583-84.

court held the plaintiffs' expert testimony inadmissible to establish causation because it did not meet the general acceptance standard articulated in *Frye*.⁷³ The Court of Appeals for the Ninth Circuit affirmed, citing *Frye* as the proper standard for admissibility and concluding that the plaintiffs had failed to satisfy their burden of proof of causation.⁷⁴

The Supreme Court vacated the lower court's decision and held that the *Frye* rule had been superseded by the enactment of the Evidence Rules.⁷⁵ The Court stated that the *Frye* standard was "austere . . . [.] incompatible with . . . the Federal Rules of Evidence, [and] should not be applied in federal trials."⁷⁶ The Court then articulated a new test for admissibility of scientific expert testimony and listed several nonexclusive factors that federal courts should consider when faced with a proffer of such testimony.⁷⁷

The *Daubert* Court held that Rule 702, in conjunction with other Evidence Rules, assigned to the trial court the gatekeeping function of "ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand."⁷⁸ The Court added that "[p]ertinent evidence based on scientifically valid principles" will satisfy these requirements.⁷⁹

The Court in *Daubert* interpreted Rule 702 as entrusting a trial judge with the responsibility of ensuring that an expert is testifying to "(1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue."⁸⁰ The phrase "scientific knowledge" in Rule 702 requires that "the reasoning or methodology underlying the testimony [be] scientifically valid."⁸¹ The term "scientific" signifies "a grounding in the methods and procedures of science," and "knowledge" is "more than subjective belief or unsupported speculation."⁸² The requirement of scientific knowledge "establishes a standard of evidentiary reliability."⁸³

The Court then offered general observations as to how to de-

73. *See id.* at 583.

74. *See id.* at 584.

75. *See id.* at 588-89 & n.6.

76. *Id.* at 589.

77. *See id.* at 592-94.

78. *Id.* at 597.

79. *Id.*

80. *Id.* at 592.

81. *Id.* at 592-93.

82. *Id.* at 590.

83. *Id.*

termine “whether a theory or technique is scientific knowledge that will assist the trier of fact.”⁸⁴ The Court enumerated four nonexclusive factors that trial courts should consider: (1) whether a scientific theory can and has been tested; (2) whether it has been subjected to peer review; (3) its rate of error; and (4) its degree of general acceptance within the relevant scientific community.⁸⁵

C. Justice Rehnquist’s Dissent

In his dissent Justice Rehnquist raised several questions the majority opinion did not address.⁸⁶ The majority opinion left unclear whether *Daubert*’s factors also apply to expert testimony based on “technical or other specialized knowledge” and whether they are limited to the scientific knowledge portion of Rule 702.⁸⁷ The majority opinion also failed to explain the difference between scientific and technical knowledge.⁸⁸ Justice Rehnquist expressed concern that these ambiguities would cause confusion among trial courts applying *Daubert* to different types of expert testimony.⁸⁹

D. Post-Daubert Confusion Over the Scope of the Decision

It is important to note that the central holding of *Daubert* focused on the admissibility of scientific expert testimony.⁹⁰ It resolved the issue concerning the viability of the *Frye* standard—the test dealing exclusively with novel scientific evidence.⁹¹ In fact, Justice Blackmun began the Court’s opinion by stating that they were “called upon to determine the standard for admitting expert *scientific* testimony in a federal trial”;⁹² Justice Blackmun later added that the discussion was “limited to the scientific context because that is the nature of the expertise offered” in the case.⁹³ Yet the test articulated in *Daubert* was based on Rule 702—a Rule that

84. *Id.* at 593.

85. *See id.* at 593-94.

86. *See id.* at 600 (Rehnquist, C.J., concurring in part and dissenting in part).

87. *See id.* (Rehnquist, C.J., concurring in part and dissenting in part).

88. *See id.* (Rehnquist, C.J., concurring in part and dissenting in part).

89. *See id.* at 600-01 (Rehnquist, C.J., concurring in part and dissenting in part).

90. *See id.* at 589.

91. *See id.* at 585-89. It must be noted, however, that the type of evidence subject to the *Frye* standard has never been made entirely clear. *See* Strong, *supra* note 10, at 362 n.51.

92. *Daubert*, 509 U.S. at 582 (emphasis added).

93. *Id.* at 590 n.8. But unlike *Frye*, the *Daubert* opinion is not limited to *novel* scientific testimony. *See id.* at 589 (referring to “all scientific testimony”).

also addresses technical and “other specialized knowledge.”⁹⁴

As the Supreme Court focused on one portion of Rule 702, it left the remainder of the Rule open to interpretation.⁹⁵ The Court never clarified whether and how the *Daubert* analysis ought to be applied to other types of expert knowledge.⁹⁶ It never explained the relevance of its four-part test to nonscientific expert testimony nor the extent of the trial judges’ gatekeeping function the decision requires. While entrusting federal judges to screen all expert testimony in a manner consistent with *Daubert*, the Court did not clarify the proper scope of the *Daubert* opinion.

III. POST-*DAUBERT* CIRCUIT CASES INVOLVING NONSCIENTIFIC EXPERT TESTIMONY

Since the *Daubert* decision in 1993, most circuit courts have addressed Justice Rehnquist’s questions concerning the trial judge’s role in screening nonscientific expert evidence.⁹⁷ Initially, some commentators thought the *Daubert* ruling applied only to the scientific theories previously subject to the *Frye* test.⁹⁸ More recently, however, commentators have expressed the belief that *Daubert*’s general principles apply to all types of expert evidence.⁹⁹ The circuit courts are clearly in conflict on this issue.

Post-*Daubert* decisions reveal a wide spectrum of judicial approaches to interpreting the scope of *Daubert* and its application to nonscientific expert evidence. Sections A and B discuss the circuit cases on the opposite sides of the spectrum—those that literally apply the *Daubert* four-prong test to nonscientific expert testimony and those that refuse to extend *Daubert* to nonscientific testimony at all. Section C focuses on the group of cases that constitute a middle ground—applying *Daubert*’s principles but not the

94. *Id.* at 589 (alteration in original) (quoting FED. R. EVID. 702).

95. *See id.* at 600 (Rehnquist, C.J., concurring in part and dissenting in part).

96. *See id.* (Rehnquist, C.J., concurring in part and dissenting in part); *see also* Rochelle Cooper Dreyfuss, *Is Science a Special Case? The Admissibility of Scientific Evidence After Daubert v. Merrell Dow*, 73 TEX. L. REV. 1779, 1782 (1995) (“Since *Daubert* was decided, . . . both courts and commentators have begun to realize that the decision actually creates at least as many problems as it solves.”).

97. For a discussion of the pertinent part of Justice Rehnquist’s dissent see *supra* Part II.C.

98. *See* Rorie Sherman, *‘Junk Science’ Rule Used Broadly*, NAT’L L.J., Oct. 4, 1993, at 3.

99. *See* G. Michael Fenner, *The Daubert Handbook: The Case, Its Essential Dilemma, and Its Progeny*, 29 CREIGHTON L. REV. 939, 972 (1996); Kesan, *supra* note 18, at 2026-27.

four-part analysis formulated for scientific expert testimony. The cases discussed in Section C indicate the general trend in this area of law and are useful in formulating suggestions for the proper application of *Daubert* to nonscientific expert testimony.¹⁰⁰ Finally, Section D addresses the decisions of several circuits that have extended *Daubert* to nonscientific expert testimony in some cases but refused to do so in others.

The distinction between scientific and nonscientific expert testimony is discussed in greater detail in Part IV.A. For the purpose of analyzing the courts' attitudes toward nonscientific expert testimony, this survey is limited to those cases where the courts classified the questioned testimony as nonscientific.

A. *Literal Application of the Daubert Test to Nonscientific Testimony*

Footnote eight in *Daubert* states unambiguously that the Court's general observations on how to assess the reliability of expert testimony are limited to the scientific context "because that is the nature of the expertise offered" in that case.¹⁰¹ But in at least one case, a lower court has taken *Daubert's* four-part analysis beyond the realm of science.

In *Berry v. City of Detroit*¹⁰² the expert witness was a retired sheriff with a degree in sociology and four years of work experience at the Department of Justice.¹⁰³ He testified as to whether the police department's alleged failure to discipline officers was the proximate cause of an officer shooting a victim.¹⁰⁴ The court recognized that the testimony was nonscientific but proceeded to apply the four *Daubert* factors.¹⁰⁵ The testimony failed the test because there was no indication that the police discipline theory had been formally tested, published after peer review, or accepted by other experts in the field.¹⁰⁶ The court did not inquire into the theory's error rate.¹⁰⁷

100. See *infra* Part V for further discussion.

101. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 590 n.8 (1993).

102. 25 F.3d 1342 (6th Cir. 1994).

103. See *id.* at 1348-49.

104. See *id.* at 1348.

105. See *id.* at 1350-51.

106. See *id.* The expert testimony was held inadmissible. See *id.* at 1352.

107. See *id.* at 1350. The reason for this is quite evident from the nature of the testimony—a highly nonscientific police discipline theory can hardly be tested, nor can its rate of error be determined.

Although the court discussed the distinctions between scientific and nonscientific expert testimony,¹⁰⁸ it nevertheless applied the *Daubert* factors, which were formulated specifically for scientific expert testimony.¹⁰⁹ The court's analysis in *Berry* raises an important question regarding the appropriateness of such a literal application of *Daubert* to nonscientific theories that are not generally tested or subjected to peer review.¹¹⁰

B. The Most Restrictive Approach to Daubert

On the other side of the spectrum, several circuit decisions have expressly declared that *Daubert* must be limited to scientific expert testimony.¹¹¹ A few other circuit cases have implicitly followed that view by not subjecting nonscientific expert testimony to *Daubert*'s reliability analysis.¹¹²

1. Second Circuit

The Second Circuit has consistently limited the scope of *Daubert* to scientific testimony.¹¹³ In *Iacobelli Construction, Inc. v. County of Monroe*¹¹⁴ the court held that the test articulated in *Daubert* did not apply to the affidavits of a geotechnical or an underground-construction consultant, and that the lower court's "reliance on *Daubert* was misplaced."¹¹⁵ According to the Second Circuit, the affidavits in that case did not "present the kind of 'junk science' problem that *Daubert* meant to address."¹¹⁶ Further, in

108. See *id.* at 1349-50.

109. See *id.* at 1350-51.

110. For further discussion see *infra* Part IV.B.2.

111. See, e.g., *Thomas v. Newton Int'l Enters.*, 42 F.3d 1266, 1270 n.3 (9th Cir. 1994) ("*Daubert* was clearly confined to the evaluation of *scientific* expert testimony.").

112. See *United States v. Rice*, 52 F.3d 843 (10th Cir. 1995); *United States v. Johnson*, 28 F.3d 1487 (8th Cir. 1994); *United States v. Muldrow*, 19 F.3d 1332 (10th Cir. 1994).

113. See *Iacobelli Constr., Inc. v. County of Monroe*, 32 F.3d 19 (2d Cir. 1994) (refusing to apply the *Daubert* test to affidavits of a geotechnical consultant and an underground-construction consultant); *Tamarin v. Adam Caterers, Inc.*, 13 F.3d 51 (2d Cir. 1993) (refusing to extend the *Daubert* test to an expert accountant's testimony); *United States v. Locascio*, 6 F.3d 924 (2d Cir. 1993) (upholding the admission of a DEA agent's testimony regarding methods used in illegal drug operations).

114. 32 F.3d 19 (2d Cir. 1994).

115. *Id.* at 25.

116. *Id.* The court cited its earlier decision in *Tamarin*, where it held that *Daubert* "specifically dealt with the admissibility of scientific evidence" and did not apply to an expert testimony of an accountant. *Id.* (quoting *Tamarin*, 13 F.3d at 53).

several decisions involving expert testimony on organized crime, the court implicitly refused to apply *Daubert* by focusing on the “helpfulness” requirement of Rule 702 and by relying on pre-*Daubert* cases.¹¹⁷

2. Ninth Circuit

The Ninth Circuit refused to apply *Daubert* to the testimony of an experienced longshore worker regarding the hazard of having an uncovered manhole on a vessel.¹¹⁸ The court stated that “*Daubert* was clearly confined to the evaluation of *scientific* expert testimony,”¹¹⁹ explaining that the “[s]pecial concerns” associated with scientific testimony did not arise when evaluating expert testimony based on specialized knowledge and skill, such as twenty-nine years of experience on the waterfront.¹²⁰

The court subsequently reaffirmed this view in an unpublished opinion upholding the admission of expert testimony on the *modus operandi* of drug traffickers.¹²¹ The court explicitly stated that *Daubert* only applied to scientific testimony¹²² and did not displace earlier decisions dealing with expert testimony based on specialized knowledge.¹²³

3. Tenth Circuit

In *Compton v. Subaru of America, Inc.*¹²⁴ the Tenth Circuit held that *Daubert* had “little bearing” on expert testimony that was based not on methodology or technique but on the expert’s experience and training.¹²⁵ *Compton* was a products liability action against an automobile manufacturer in which the plaintiff’s engineering expert testified that the design and roof support structures

117. See *United States v. Amuso*, 21 F.3d 1251, 1263-64 (2d Cir. 1994) (upholding the admission of an FBI agent’s testimony regarding the organization and terminology of New York crime families); *Locascio*, 6 F.3d at 936-37 (admitting expert testimony on the structure of organized crime families); *United States v. Daccarett*, 6 F.3d 37, 58 (2d Cir. 1993) (admitting the testimony of a DEA agent regarding methods criminals use in drug operations).

118. See *Thomas*, 42 F.3d at 1269-70.

119. *Id.* at 1270 n.3.

120. See *id.*

121. See *United States v. Arevalo-Gamboa*, No. 94-50236, 1995 WL 623746, at *2 (9th Cir. Oct. 24, 1995).

122. See *id.*

123. See *id.*

124. 82 F.3d 1513 (10th Cir.), *cert. denied*, 117 S. Ct. 611 (1996).

125. See *id.* at 1519.

in the vehicle were defective because they permitted excessive roof crush.¹²⁶ The court held that because the expert testimony was not based on any particular methodology but on "general engineering principles and [the expert's] twenty-two years of experience as an automotive engineer," the court did not need to perform the *Daubert* inquiry into the reliability of the expert's methods.¹²⁷ The testimony was admissible as long as the expert testified on matters "within the reasonable confines of his subject area."¹²⁸ And even though the witness had no expertise in designing automobile roofs, and the lower court admittedly had a low opinion of his "credibility and of the validity of his opinions," the court affirmed the admission of his testimony based on the findings that the expert had sufficient qualifications and his testimony was "facially helpful and relevant."¹²⁹

In this court's view the *Daubert* test did not change the traditional analysis under Rule 702, but instead set out additional factors the trial judge must consider if expert testimony is based on novel or controversial methodologies and techniques.¹³⁰ The court noted that "the weight and credibility of [the expert] testimony were issues for the jury."¹³¹

The *Compton* decision is the latest in a series of post-*Daubert* Tenth Circuit opinions in which the court has consistently applied traditional Rule 702 analysis to nonscientific expert testimony, focusing solely on the issues of relevancy, the expert's qualifications, and the helpfulness of the testimony to the jury.¹³² The court did not analyze the reliability of the expert's methods.¹³³

*United States v. Muldrow*¹³⁴ is a case of particular interest because it dealt with the issue of admissibility of both scientific and

126. *See id.* at 1516.

127. *Id.* at 1519.

128. *Id.* at 1520 (citation omitted).

129. *Id.* at 1519-20.

130. *See id.*

131. *Id.* at 1520.

132. *See, e.g.,* *United States v. Rice*, 52 F.3d 843, 846-47 (10th Cir. 1995) (excluding the testimony by a tax attorney because it was speculative and irrelevant to the question before the jury); *United States v. Markum*, 4 F.3d 891, 895-96 (10th Cir. 1993) (admitting a fire chief's testimony regarding the cause of fire after considering his twenty-nine years of experience in the field and the helpfulness of his specialized knowledge to the jury).

133. *See Rice*, 52 F.3d at 846-47; *Markum*, 4 F.3d at 895-96.

134. 19 F.3d 1332 (10th Cir. 1994).

nonscientific expert testimony.¹³⁵ The court upheld the admission of a veteran police officer's nonscientific expert testimony on the question of whether 4.4 kilograms of cocaine was an amount consistent with distribution rather than personal use.¹³⁶ It reasoned that the expert's specialized knowledge of drug trafficking was needed to assist the jury in assessing the significance of the large amount of cocaine.¹³⁷ The admissibility of the expert testimony was discussed solely in terms of its helpfulness to the jury, and the court relied exclusively on its pre-*Daubert* cases.¹³⁸ The court made no references to *Daubert* in the part of the opinion dealing with the nonscientific expert testimony.¹³⁹ In contrast, the scientific testimony of a forensic chemist identifying the substance as cocaine was analyzed under *Daubert's* four-prong test.¹⁴⁰ The difference in the analysis of the two types of expert testimony clearly indicates that the Tenth Circuit views the scope of *Daubert* as strictly limited to scientific testimony.

C. Analyzing Nonscientific Testimony in Light of Daubert's Reliability Requirement

The following are cases from circuit courts that have used *Daubert's* guidance to ensure the reliability of all expert testimony presented at trial. But unlike the Sixth Circuit's decision in *Berry v. City of Detroit*,¹⁴¹ these courts have not tried to apply literally *Daubert's* four-part test to nonscientific testimony. They have analyzed the reliability of the expert's methodology by focusing on the matters appropriate for the particular expertise in question.

1. First Circuit

The First Circuit has been screening nonscientific expert testimony for reliability without applying *Daubert's* science-oriented factors in nonscientific fields such as the evaluation of rare coins¹⁴² and the establishment of usage of trade in commercial transac-

135. See *id.* at 1337-38.

136. See *id.* at 1338.

137. See *id.*

138. See *id.*

139. See *id.*

140. See *id.* at 1337.

141. 25 F.3d 1342 (6th Cir. 1994). For a discussion of the *Berry* decision, see *supra* Part III.A.

142. See *United States v. Kayne*, 90 F.3d 7, 11-12 (1st Cir. 1996).

tions.¹⁴³ In *United States v. Kayne*¹⁴⁴ the court examined the opinions of coin evaluation experts¹⁴⁵ and found them sufficiently reliable—"the chains of custody of the coins were carefully established, the experts' methods were explained, and the appraisals were reasonably current."¹⁴⁶ In *Den Norske Bank AS v. First National Bank of Boston*¹⁴⁷ the court determined the reliability of a banker's expert testimony by examining *how* the expert reached his conclusion regarding "usage of trade."¹⁴⁸ It held the testimony admissible under Rule 702 and *Daubert* because, during his forty-year banking career, the expert had become very familiar with the commercial agreements in question and had observed firsthand the well-established industry custom and practice.¹⁴⁹

2. Third Circuit

In the first post-*Daubert* Third Circuit ruling on the admissibility of nonscientific evidence,¹⁵⁰ the court evaluated economists' expert testimony in an antitrust action.¹⁵¹ Although the court did not cite the then recent decision in *Daubert*,¹⁵² it affirmed the admission of the testimony only after examining the analysis used by the economists and the accuracy of the data upon which they relied.¹⁵³

143. See *Den Norske Bank AS v. First Nat'l Bank*, 75 F.3d 49, 56-59 (1st Cir. 1996).

144. 90 F.3d 7 (1st Cir. 1996).

145. See *id.* at 11-12. The defendant in *Kayne* was convicted of mail fraud for selling coins that were of substantially lower quality and value than he had represented to his customers. See *id.* at 10.

146. *Id.* at 12.

147. 75 F.3d 49 (1st Cir. 1996).

148. *Id.* at 58. The case involved a dispute between two banks over the defendant bank's partial forgiveness of a loan after a borrower's default. See *id.* at 51. On appeal the plaintiff bank challenged the admission of defendant bank's expert evidence on banking industry practices. See *id.* at 57.

149. See *id.* at 58.

150. See *Petruzzi's IGA Supermarkets, Inc. v. Darling-Delaware Co.*, 998 F.2d 1224 (3d Cir. 1993). This case was decided less than a month after the *Daubert* decision.

151. See *id.* at 1236-38. A supermarket brought an action against fat-and-bone rendering companies for conspiracy to restrain competition in violation of the Sherman Antitrust Act. See *id.* at 1228. Plaintiffs proffered the expert testimony of two economists regarding the pricing patterns that suggested anticompetitive behavior. See *id.* at 1236-37.

152. See *id.* at 1238.

153. See *id.* The court was satisfied with the reliability of the economists' multiple regression analysis and concluded that there was nothing in the record showing flaws in their data. See *id.*

In *Habecker v. Clark Equipment Co.*¹⁵⁴ a later decision, the court explicitly relied on *Daubert* in evaluating the reliability of testimony by an accident reconstruction expert in a products liability action.¹⁵⁵ In affirming the exclusion of the expert testimony, the court did not inquire into the testability, error rate, peer review, or general acceptance of the experiment conducted by the expert.¹⁵⁶ However, it did state that *Daubert* required a preliminary assessment of the validity of the expert's methodology.¹⁵⁷ The court analyzed the accident simulation experiment and found it unreliable.¹⁵⁸

In *United States v. Velasquez*¹⁵⁹ the court addressed the question of whether it was "appropriate to apply the *Daubert* tests for scientific expert testimony to the field of handwriting analysis."¹⁶⁰ After briefly discussing how other federal courts had dealt with the admissibility of nonscientific expert testimony,¹⁶¹ the court concluded that the "[*Daubert*] tests are helpful to assist [the court] in [its] consideration of the expertise in question."¹⁶² The court thoroughly analyzed the methodology underlying handwriting analysis and found it to be reliable.¹⁶³

154. 36 F.3d 278 (3d Cir. 1994).

155. *See id.* at 289-90. The representatives of a forklift operator who was killed by an overturned forklift brought an action against the forklift manufacturer and its lessor. *See id.* at 280. At trial the court refused to admit the testimony of the plaintiff's expert witness who had attempted to simulate the accident. *See id.* at 289.

156. These are the four factors for determining "scientific knowledge" as articulated by the *Daubert* court. *See Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 593-94 (1993).

157. *See Habecker*, 36 F.3d at 290.

158. *See id.* The court found that the expert did not properly replicate the height of the forklift or its movement. *See id.*

159. 64 F.3d 844 (3d Cir. 1995).

160. *Id.* at 850.

161. The court cited two Second Circuit decisions which found the *Daubert* test to be "too stringent to employ in considering whether to admit the expert testimony of accountants and construction experts." *Id.* (discussing *Iacobelli Constr., Inc. v. County of Monroe*, 32 F.3d 19, 25 (2d Cir. 1994); *Tamarin v. Adam Caterers, Inc.*, 13 F.3d 51, 53 (2d Cir. 1993)). The *Velasquez* court also cited *United States v. Starzeczyzel*, in which the trial judge found the *Daubert* factors inapplicable to the evaluation of inadmissibility of expert testimony by a forensic document examiner. *See id.* (citing *United States v. Starzeczyzel*, 880 F. Supp. 1027, 1040-41 (S.D.N.Y. 1995)).

162. *Id.*

163. *See id.* at 850-52.

3. Fifth Circuit

In *Marcel v. Placid Oil Co.*¹⁶⁴ the Fifth Circuit examined the admissibility of testimony by an expert economist on the worklife expectancy of an oilfield worker.¹⁶⁵ The court relied on *Daubert* in evaluating the reliability of the expert's testimony.¹⁶⁶ It affirmed the exclusion of the testimony, holding that the analysis upon which it was based lacked important data which rendered the testimony either "not sufficiently reliable" or unfairly prejudicial to the other party.¹⁶⁷

Similarly, in *Pedraza v. Jones*¹⁶⁸ the court affirmed a lower court's refusal to admit an affidavit by a long-term drug addict describing the effects of heroin withdrawal.¹⁶⁹ The court neither did a detailed analysis nor applied the *Daubert* factors. It merely reviewed the testimony for "indicia of reliability" and rejected the evidence after finding that the reliability was lacking.¹⁷⁰

The court found the requisite indicia of reliability in *United States v. 14.38 Acres of Land*,¹⁷¹ which involved expert testimony by a civil engineer and a real estate appraiser in an eminent domain action.¹⁷² The lower court rejected the expert testimony on anticipated damages to the property as "speculative."¹⁷³ The Fifth Circuit recognized that under *Daubert* a court had a gatekeeping duty to analyze the basis for an expert's conclusions and the methods employed¹⁷⁴ but found the trial judge's approach to be "too stringent."¹⁷⁵ The court held that the testimony by the civil engineer was sufficiently reliable because the expert had reached his conclusion about the likelihood of flooding on the property after

164. 11 F.3d 563 (5th Cir. 1994).

165. *See id.* at 567-68. The worker sued an offshore platform operator for injuries sustained in a slip-and-fall accident. *See id.* at 565. The defendant sought to introduce expert evidence to show that oilfield workers have a shorter than average worklife expectancy. *See id.* at 567.

166. *See id.* at 567-68.

167. *Id.* at 568.

168. 71 F.3d 194 (5th Cir. 1995).

169. *See id.* at 197. The witness was allegedly an expert due to his thirty years of experience with heroin addiction. *See id.*

170. *Id.*

171. 80 F.3d 1074 (5th Cir. 1996).

172. *See id.* at 1075-76. A property owner in an eminent domain action tried to introduce expert testimony on the likelihood of flooding to establish "anticipated damages" to his property. *See id.* at 1078.

173. *Id.*

174. *See id.*

175. *Id.*

reviewing maps, photographs, and data, and by inspecting the property.¹⁷⁶ The court was also satisfied with the methods used by the real estate appraiser who had inspected the property because he had looked at comparable sales and had discussed the property with other appraisers, brokers, and lenders.¹⁷⁷

4. Sixth Circuit

Despite the application of the four *Daubert* factors in *Berry v. City of Detroit*,¹⁷⁸ the Sixth Circuit moved away from a literal approach to *Daubert* in *Cook v. American Steamship Co.*¹⁷⁹ In *Cook* a seaman sued his employer for negligence based on the injury he suffered when the line that was supporting him in a boatswain's chair broke, tossing him to the dock.¹⁸⁰ The defendant's expert on rope testing testified that the line had parted because it had been burned.¹⁸¹

The *Cook* court reaffirmed the principle in *Berry*¹⁸² that problems of evidentiary reliability are as prominent for nonscientific as for scientific expert testimony.¹⁸³ And although *Daubert* specifically requires a court to determine whether expert methodology is scientifically valid, "[a] comparable duty is imposed upon the trial court when the subject of the proposed opinion testimony is not 'scientific' knowledge, but 'technical, or other specialized knowledge.'"¹⁸⁴ But unlike its analysis in *Berry*,¹⁸⁵ the court's analysis in *Cook* did not literally apply the *Daubert* factors to the testimony of the rope testing expert.¹⁸⁶

The court, however, excluded the expert's testimony after finding that it was not based on any testing and that the witness had failed to "call upon any 'scientific, technical, or other specialized knowledge' that would have given him a valid basis upon which to form his opinion."¹⁸⁷ The court expressed concern about

176. *See id.* at 1079.

177. *See id.*

178. 25 F.3d 1342 (6th Cir. 1994). For a discussion of the *Berry* case, see *supra* Part III.A.

179. 53 F.3d 733 (6th Cir. 1995).

180. *See id.* at 736.

181. *See id.* at 739.

182. *See Berry*, 25 F.3d at 1349.

183. *See Cook*, 53 F.3d at 738.

184. *Id.*

185. *See Berry*, 25 F.3d at 1350-51.

186. *See Cook*, 53 F.3d at 738-40.

187. *Id.* at 740.

allowing the jury to hear such an unsubstantiated opinion, "adorned as it was in the dress of scientific or technical expertise and fortified by the court's . . . calling it 'expert opinion.'"¹⁸⁸ The court concluded that this was precisely the type of testimony the Supreme Court in *Daubert* had instructed federal courts to screen out as part of their gatekeeping function.¹⁸⁹

5. District of Columbia Circuit

In a wrongful death action, the District of Columbia Circuit ruled on the admissibility of nonscientific expert testimony by an economist, who had testified on the potential income and investment profits of a helicopter crash victim.¹⁹⁰ After examining the methods and assumptions upon which the expert had formed his opinion, the court concluded that it "was based solely on guesswork, speculation, and conjecture"¹⁹¹ and that the lower court had erred in allowing that opinion to be presented at trial.¹⁹² The court stated that *Daubert's* requirement of "regulation of the subjects and theories about which an expert may testify"¹⁹³ reinforced the court's intent not to allow the jury to hear unreliable testimony. It refused to use the typical judicial excuse that the jury will allot the opinion "the weight it deserves."¹⁹⁴ The court emphasized that under *Daubert* the word "knowledge" in Rule 702 "connotes more than subjective belief or unsupported speculation,"¹⁹⁵ and concluded that the expert testimony in this case failed to satisfy this standard.¹⁹⁶

D. Inconsistent Application of Daubert: Sometimes It Applies, Sometimes It Does Not

Inconsistent application of *Daubert* to nonscientific expert testimony has emerged not just between the circuits but also within several circuits. In particular, the Seventh Circuit has ex-

188. *Id.* at 739.

189. *See id.*

190. *See Joy v. Bell Helicopter Textron, Inc.*, 999 F.2d 549, 567-70 (D.C. Cir. 1993).

191. *Id.* at 568 (quoting Appellant's Brief at 45).

192. *See id.*

193. *Id.* at 570 (quoting *Daubert*, 509 U.S. at 589).

194. *Id.* at 569 (quoting *In re Air Crash Disaster at New Orleans*, 795 F.2d 1230, 1233 (5th Cir. 1986)).

195. *Id.* at 570 (quoting *Daubert*, 509 U.S. at 590).

196. *See id.*

pressly stated that *Daubert* applies to all types of expert testimony but, meanwhile, has not applied *Daubert* in several cases.

1. Seventh Circuit

In several early post-*Daubert* opinions, the Seventh Circuit unequivocally stated that courts must always evaluate an expert's methodology to ascertain the validity of the expert's testimony.¹⁹⁷ In a more recent case, *Roback v. V.I.P. Transportation Inc.*,¹⁹⁸ the court analyzed an engineering expert's methodology in a personal injury case.¹⁹⁹ The lower court excluded the testimony on the grounds that it lacked a scientific basis and had not been subjected to meaningful peer review.²⁰⁰ The Seventh Circuit rejected such a literal approach to *Daubert*.²⁰¹ It analyzed the expert's technique—a computerized data acquisition system—and found that it consisted of standard components.²⁰² The court also considered the expert's data and noted that it was subject to examination and independent verification.²⁰³ Accordingly, it held that the expert testimony was sufficiently reliable to qualify for admission under Rule 702.²⁰⁴

In at least two other opinions, however, the court failed to extend *Daubert's* reliability inquiry to nonscientific expert testimony,²⁰⁵ and in one of those cases it explicitly stated that *Daubert* had no direct relevance to the question of admissibility of such testimony.²⁰⁶ In *United States v. Williams*²⁰⁷ the court affirmed the

197. See, e.g., *Deimer v. Cincinnati Sub-Zero Prods., Inc.*, 58 F.3d 341, 343-45 (7th Cir. 1995) (affirming the exclusion of expert testimony on allegedly negligent product design because the expert did not have the requisite expertise in the area and failed to support his conclusions with a reliable methodology); *Frymire-Brinati v. KPMG Peat Marwick*, 2 F.3d 183, 186-87 (7th Cir. 1993) (holding inadmissible expert testimony by an accountant who used only historical, as opposed to potential, cash flows in the discounted cash flow analysis).

198. 90 F.3d 1207 (7th Cir. 1996).

199. See *id.* at 1214-16. The motorists sued a truck driver and a moving company for injuries sustained when the truck rear-ended their vehicle. See *id.* at 1209. The defense expert sought to testify on the measurements of an automobile's performance taken by the expert's self-designed equipment. See *id.* at 1214.

200. See *id.* at 1215.

201. See *id.*

202. See *id.* at 1216.

203. See *id.*

204. See *id.*

205. See *United States v. Williams*, 81 F.3d 1434, 1441-42 (7th Cir. 1996); *United States v. Sinclair*, 74 F.3d 753, 757-58 (7th Cir. 1996).

206. See *Sinclair*, 74 F.3d at 757.

207. 81 F.3d 1434 (7th Cir. 1996).

admission of testimony by a witness familiar with the code of the El Rukns street gang.²⁰⁸ The court's analysis focused on whether a criminal was qualified to testify as an expert witness.²⁰⁹ It performed a traditional Rule 702 analysis, addressing only the witness's qualifications and the helpfulness of the testimony to the jury.²¹⁰

The court went further in *United States v. Sinclair*²¹¹ when it stated that *Daubert* did not create a special test for determining the admissibility of all expert testimony but only a method for evaluating the reliability of scientific witnesses.²¹² *Sinclair* involved the testimony of a legal expert.²¹³ According to the *Sinclair* court, *Daubert* had "no direct relevance to questions about the admissibility of testimony by a witness who claims legal expertise."²¹⁴ This language stands in contrast to the court's earlier decisions in *Deimer v. Cincinnati Sub-Zero Products, Inc.* and *Frymire-Brinati v. KPMG Peat Marwick*, where it emphasized the importance of always analyzing the validity of the witness's reasoning as required by *Daubert*.²¹⁵

2. Eighth Circuit

The Eighth Circuit also lacks consistency in its approach to nonscientific expert testimony. In *United States v. Johnson*²¹⁶ it focused on the helpfulness component of Rule 702 in admitting expert testimony on drug trafficking.²¹⁷ The witness in that case possessed specialized knowledge stemming from his extensive personal experience in the drug business.²¹⁸ The court stated that in determining the issue of admissibility, the relevant inquiry was whether expert testimony would be "helpful" to the jury.²¹⁹ It cited

208. *See id.* at 1441.

209. *See id.* The court concluded that the witness was qualified to testify because "the biggest experts on crime are, often, criminals." *Id.*

210. *See id.* The court distinguished *Daubert* by saying that one does not need to be a scientist or use scientific methodology in order to possess specialized knowledge about criminal conduct. *See id.* at 1442.

211. 74 F.3d 753 (7th Cir. 1996).

212. *See id.* at 757.

213. *See id.*

214. *Id.*

215. *See Deimer*, 58 F.3d at 344; *Frymire-Brinati*, 2 F.3d at 186-87.

216. 28 F.3d 1487 (8th Cir. 1994).

217. *See id.* at 1497.

218. *See id.* at 1496-97.

219. *See id.*

Daubert for both reliability and relevance requirements, yet it held that testimony was admissible merely because it was helpful.²²⁰ The reliability of the testimony was not examined.

The court took a different approach in *Ventura v. Titan Sports*,²²¹ which involved a “reliability-based challenge”²²² to the testimony of the plaintiff’s damages expert.²²³ The court did not just focus on whether the testimony was “helpful to the jury,” as it did in *Johnson*, but also addressed the reliability of the testimony.²²⁴ The court held that the expert’s testimony was reliable because the expert had employed methods similar to the other party’s experts and had surveyed thousands of relevant documents in reaching his conclusions.²²⁵

In summary, the circuit courts have adopted inconsistent approaches to the admissibility of nonscientific expert testimony in the wake of the Supreme Court decision in *Daubert*. The Second, Ninth, and Tenth Circuits have refused to extend *Daubert* to nonscientific expert testimony.²²⁶ The First, Third, Fifth, Sixth, and District of Columbia Circuits have extended *Daubert*’s reliability requirement to nonscientific expert testimony,²²⁷ and in one case, the Sixth Circuit even applied *Daubert*’s four-part test.²²⁸ The Seventh and Eighth circuits have each been inconsistent—performing an inquiry into the reliability of nonscientific expert testimony in some cases but not in others.²²⁹

IV. THE SCOPE OF THE *DAUBERT* OPINION

Prior to discussing the application of *Daubert*’s reliability requirement to nonscientific expert testimony, several important threshold issues must be addressed. These are the questions regarding the appropriate scope of *Daubert* that Chief Justice

220. *See id.*

221. 65 F.3d 725 (8th Cir. 1995).

222. *Id.* at 733.

223. In *Ventura* a wrestler brought an action against a wrestling organization for fraud, misappropriation of publicity rights, and quantum meruit. *See id.* at 728. The trial court admitted expert testimony as to the market rate of royalties for licensing intellectual property. *See id.*

224. *See id.* at 734.

225. *See id.*

226. *See supra* Part III.B.

227. *See supra* Part III.C.

228. *See supra* Part III.A.

229. *See supra* Part III.D.

Rehnquist raised in his dissenting opinion.²³⁰ While articulating the test for admissibility of scientific expert testimony, the *Daubert* majority left unclear which bodies of knowledge are “scientific.” Section A fills in this gap by suggesting the disciplines that the courts should treat as “scientific” for the purposes of the *Daubert* analysis. The Court also did not make it clear whether *Daubert*’s general principles and its four factors should apply to nonscientific testimony. Section B presents an analysis of this issue and concludes that *Daubert*’s reliability principles ought to be extended to nonscientific testimony, but the four-factor test should be limited to the analysis of scientific evidence.

A. What is Science? Distinguishing Scientific Expert Testimony from Other Types of Expert Testimony in Rule 702

The Supreme Court in *Daubert* instructed trial judges to ensure the reliability of all scientific expert testimony, but it did not specify which expert evidence is “scientific” and thus subject to *Daubert*’s four-prong analysis.²³¹ Several legal commentators have discussed the difficulty of differentiating “science” from the other types of expert testimony mentioned in Rule 702—especially technical expert testimony—and how, in their view, *Daubert* has not given the courts sufficient guidance on the matter.²³²

Typical of many words, “science” has a variety of definitions, depending on the dictionary one consults. According to the *Random House Dictionary of the English Language*, science is “a branch of knowledge or study dealing with a body of facts or truths systematically arranged and showing the operation of general laws.”²³³ The *Oxford American Dictionary* defines science as “a

230. See *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 600 (1993) (Rehnquist, C.J., concurring in part and dissenting in part). For a discussion of Chief Justice Rehnquist’s dissenting opinion, see *supra* Part II.C.

231. See Bert Black et al., *Science and the Law in the Wake of Daubert: A New Search for Scientific Knowledge*, 72 TEX. L. REV. 715, 751 (1994) (“If lawyers and judges hope to apply the new *Daubert* test rationally, they will have to learn what distinguishes science from other forms of knowledge—what it is that makes science scientific.”).

232. See Nahas, *supra* note 51, at 127; Diana K. Sheiness, Note, *Out of the Twilight Zone: The Implications of Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 69 WASH. L. REV. 481, 491 (1994); Timothy B. Dyk & Gregory A. Castanias, *Daubert Doesn’t End Debate on Experts*, NAT’L L.J., Aug. 2, 1993, at 20 (“[W]ho is a scientist? A political scientist? A ‘human factors expert?’”).

233. THE RANDOM HOUSE DICTIONARY OF THE ENGLISH LANGUAGE 1279 (2d ed. 1983) [hereinafter RANDOM HOUSE].

branch of knowledge requiring systematic study and method.”²³⁴ Unfortunately, neither of these definitions provides a key to determining whether the evidence facing a trial judge is scientific testimony of the kind the *Daubert* Court had in mind.

The definition of the word “technical” in Rule 702 is just as difficult to ascertain. The *Random House Dictionary of the English Language* defines technical as “pertaining to an art, science, or the like,” or “characteristic of a particular art, science, profession, trade, etc.”²³⁵ Other dictionaries offer slightly differing definitions.²³⁶ But one conclusion can be drawn—dictionary definitions of “scientific” and “technical” significantly overlap and neither definition provides much guidance for the appropriate use of these words in Rule 702.

As the definitions offer little practical help, the next logical source for guidance is the *Daubert* opinion itself. One must look to the Court’s decision to ascertain what disciplines the Justices had in mind when they articulated the famous four-prong test. In fact, *Daubert*’s brief discussion on the philosophy of science and the portion of the opinion containing the four factors offer valuable clues.

The *Daubert* court seemed to embrace the concept of “Newtonian science,” where a scientist forms a hypothesis and then engages in experimentation or observation to validate it.²³⁷ Newton used experiments to derive and test the laws of mechanics.²³⁸ Reliance on such experimental methodology is sometimes referred to as “Newtonian science.”²³⁹ According to the Court, the experimental methodology is “what distinguishes science from other fields of human inquiry.”²⁴⁰ It stated that a theory derives its scientific status from “its falsifiability, or refutability, or testability.”²⁴¹

With this in mind, the *Daubert* court articulated four factors

234. OXFORD AMERICAN DICTIONARY 605 (1980) [hereinafter OXFORD].

235. RANDOM HOUSE, *supra* note 233, at 1458.

236. See BLACK’S LAW DICTIONARY 1463 (6th ed. 1990) (technical means “[b]elonging or peculiar to an art or profession”; “words of art”); OXFORD, *supra* note 234, at 704 (defining technical as “of the mechanical arts and applied sciences, . . . of a particular subject or craft”).

237. See Imwinkelried, *supra* note 10, at 2276; Kesan, *supra* note 18, at 2006.

238. See Imwinkelried, *supra* note 10, at 2276.

239. See *id.* at 2276-77.

240. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 593 (1993).

241. *Id.*

aimed at determining the validity of scientific expert testimony. The factors reflect the way in which the modern scientific community analyzes the validity of scientific theories.²⁴² First, the theories are tested.²⁴³ If a theory cannot be tested, it is not scientific.²⁴⁴ The system of peer review and publication—the second factor—also forms an important component of “good science.”²⁴⁵ After scientists conduct experiments and formulate a scientific theory, they must submit the theory “to the scrutiny of the scientific community.”²⁴⁶ Only after experts in that field review the theory can the scientific community feel assured that it is good science. Likewise, the error rate—*Daubert*’s third factor²⁴⁷—is a valuable indicator used by scientists to determine the validity of a particular theory. In other words, to determine the reliability of any scientific expert testimony, *Daubert* instructs trial judges to use the same methods employed by members of the scientific community in determining the validity of scientific theories.

It is quite clear from this part of the decision what type of testimony constitutes *Daubert*’s science. It is experimental Newtonian science that can be tested, the error rate of which can be ascertained, which is subject to peer review by fellow scientists, and which is generally accepted in the relevant scientific community. Any discipline that cannot be reasonably subjected to this type of analysis is not science within the meaning of Rule 702.

B. Should Daubert Be Extended to Nonscientific Expert Testimony?

The language of *Daubert* clearly sets scientific expert testimony apart from all other forms of expert testimony.²⁴⁸ The Court first focused on the words “scientific knowledge” in Rule 702 as the textual justification for judicial scrutiny of scientific expert testimony.²⁴⁹ The Court then specifically noted that, although Rule 702 also applies to other types of expert testimony, the Court’s

242. *See id.* at 593-94.

243. *See id.* at 593.

244. *See id.* Since Newtonian science relies on experimental methodology, the validity of scientific theory is determined through testing. *See Imwinkelried, supra* note 10, at 2276-77.

245. *See id.* at 593-94.

246. *Id.* at 593.

247. *See Daubert*, 509 U.S. at 594.

248. *See id.* at 589-90.

249. *See id.* at 590-91.

opinion was "limited to the scientific context."²⁵⁰ Further, as discussed above, *Daubert's* four-part test appears to have been aimed at determining the reliability of Newtonian scientific testimony—testimony based on experimental methodology, tested and subjected to peer review through publication in scientific journals.²⁵¹

But *Daubert's* discussion of the reliability of expert testimony has implications beyond scientific expert testimony. In fact, most circuit courts have interpreted it broadly to impose on judges a gatekeeping role with regard to all types of expert testimony proffered at trial.²⁵² The following sections explore why courts should apply *Daubert's* reliability requirement to all types of expert testimony but limit its four-part test to testimony based on Newtonian science.

1. *Daubert's* reliability principles

While there has been growing concern over the proliferation of "junk science" in the courtroom,²⁵³ "the complaints about the reliability of nonscientific expert testimony have been fewer and less vehement."²⁵⁴ Some circuit courts have refused to extend *Daubert* to nonscientific expert evidence, stating that *Daubert* dealt with the special problems associated with "junk science," which do not arise in the context of nonscientific expert testimony.²⁵⁵ These courts have performed a traditional Rule 702 analysis focusing on the qualifications of the expert witness and the helpfulness of the testimony to the jury.²⁵⁶

Other courts, such as the Seventh Circuit, imply that *Daubert's* requirement of judicial gatekeeping is unnecessary where expert testimony is not technical or complex in nature. This

250. *Id.* at 590 n.8.

251. *See supra* Part IV.A.

252. *See* cases discussed *supra* Part III.C.

253. *See* McCarthy, *supra* note 60, at 350 n.1 (discussing sharp criticism by many courts and commentators of the prevalent practice of admitting unreliable expert evidence).

254. *See*, Imwinkelried, *supra* note 10, at 2279.

255. *See, e.g.*, Thomas v. Newton Int'l Enters., 42 F.3d 1266, 1270 n.3 (9th Cir. 1994) ("Special concerns arise when evaluating the proffer of scientific testimony that do not arise when evaluating the type of expert testimony offered here."); Iacobelli Constr., Inc. v. County of Monroe, 32 F.3d 19, 25 (2d Cir. 1994) (holding that the affidavits by technical consultants did not "present the kind of 'junk science' problem that *Daubert* meant to address").

256. *See* cases discussed *supra* Part III.B. For additional discussion of the traditional analysis of nonscientific expert evidence under Rule 702, see Part II.A.

can be inferred from the Seventh Circuit's inconsistent application of *Daubert* to different types of nonscientific expert testimony. In the earlier post-*Daubert* cases, the court applied *Daubert*'s reliability analysis to expert testimony by an accountant²⁵⁷ and by a product design expert.²⁵⁸ In both cases the court evaluated expert methodology that was rather technical or esoteric. In one case, for example, the court examined the validity of a discounted cash flow analysis performed by an accounting expert.²⁵⁹ But in several later cases, the Seventh Circuit held that *Daubert* did not apply to testimony by an expert on a criminal code²⁶⁰ or by a legal expert.²⁶¹ It appears that where expert testimony is not technical in nature—no data to analyze, no models to consider, no calculations to examine—the court reverts to the traditional approach to Rule 702 that focuses on an expert's qualifications and relies on the jurors to assign the testimony the appropriate "weight" based on its credibility.²⁶²

These courts, however, have been too hasty in abandoning their gatekeeping duties where nonscientific evidence is concerned. Even when expert evidence is not particularly complex or esoteric in nature, the specialized knowledge possessed by the expert will still fall outside the scope of an average juror's knowledge or experience. This concept is the basis of the "helpfulness" prong of Rule 702, which allows opinion testimony by an expert only if it can "assist the trier of fact to understand the evidence."²⁶³ The advisory committee note to Rule 702 suggests that such expert opinion should be permitted only if "the untrained layman would [not] be qualified to determine intelligently and to the best possible degree the particular issue without enlightenment from those having a specialized understanding of the subject involved in the dispute."²⁶⁴ Therefore, the jurors are expected to assign appropriate weight to expert testimony, which by definition falls outside

257. See *Frymire-Brinati v. KPMG Peat Marwick*, 2 F.3d 183, 186 (7th Cir. 1993).

258. See *Deimer v. Cincinnati Sub-Zero Prods., Inc.*, 58 F.3d 341, 343 (7th Cir. 1995).

259. See *Frymire-Brinati*, 2 F.3d at 186.

260. See *United States v. Williams*, 81 F.3d 1434, 1441 (7th Cir. 1996).

261. See *United States v. Sinclair*, 74 F.3d 753, 757 (7th Cir. 1996).

262. For a discussion on the jury's role under the traditional approach, see Strong, *supra* note 10, at 363-64.

263. FED. R. EVID. 702.

264. FED. R. EVID. 702 advisory committee's note (quoting Mason Ladd, *Expert Testimony*, 5 VAND. L. REV. 414, 418 (1952)).

their knowledge or expertise. This paradox was eloquently described by Judge Learned Hand:

The whole object of the expert is to tell the jury, not facts . . . but general truths derived from his specialized experience. But 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.²⁶⁵

One must not assume that when an expert does not employ complicated formulas, the jury will necessarily find it easier to ascertain the reliability of such testimony. The jury may be as much at a loss when faced with the testimony on such specialized subjects as banking, accounting, classical music, legal standards of care, or medieval history, as when evaluating DNA evidence. Because expert testimony is there to educate jurors on subjects about which they do not possess sufficient knowledge, jurors might be unwilling or simply unable to scrutinize the expert's reliability, and may treat the expert's opinion with unquestioning deference.²⁶⁶

Thus, the court's gatekeeping role is arguably just as important where nonscientific testimony is concerned. Courts and commentators have voiced strong doubts about the trustworthiness of nonscientific experts,²⁶⁷ whose testimony can be easily purchased "in virtually every field of science and technology."²⁶⁸ To mitigate the danger of undue influence of this testimony on the jury, judges must carefully screen the validity of the testimony before admitting it in court.

The judge does not actively perform this gatekeeping role under the traditional approach to Rule 702.²⁶⁹ The reliability of the testimony is "conveniently subsumed under the question of the

265. Learned Hand, *Historical and Practical Considerations Regarding Expert Testimony*, 15 HARV. L. REV. 40, 54 (1902).

266. See 29 CHARLES A. WRIGHT & VICTOR J. GOLD, FEDERAL PRACTICE AND PROCEDURE § 6264, at 182-83 (1997).

267. See *Berry v. City of Detroit*, 25 F.3d 1342, 1349 (6th Cir. 1994) (stating that it appears obvious that problems of admissibility of expert testimony "are exacerbated when courts must deal with the even more elusive concept of non-scientific testimony"); Imwinkelried, *supra* note 10, at 2279 (stating that "the trustworthiness of nonscientific expert testimony is every bit as suspect as the reliability of scientific evidence").

268. WRIGHT & GOLD, *supra* note 266, at 183.

269. See Strong, *supra* note 10, at 363-64 (discussing the roles of a judge and a jury under the traditional approach).

qualification of the expert witness.”²⁷⁰ Courts find it easier to review the witnesses’ educational backgrounds and experiences than the methodology they used in reaching their conclusions.²⁷¹ As to methodology, courts tend to give considerable weight to experts’ assurances that the data on which they based their propositions is sufficiently accurate.²⁷²

The obvious problem with this approach is that by focusing on the expert’s qualifications, the court is expected to infer—or accept the expert’s assurances—that the testimony is based on reliable methodology. It may be reasonable to assume that if the experts have relevant training and previous experiences in the subject matter, they should be able to reach sound conclusions with regard to the present case. But it would be more effective if the court examined directly the expert’s data and reasoning, and then drew its own conclusions regarding their soundness.

For instance, if an accountant wished to testify as to whether financial statements were fraudulent, under the traditional approach the court would consider the accountant’s education, training, and whether prior audits conducted by the accountant are similar to the one in question. But the court would not inquire into the validity of the data the expert accountant used or the soundness of the accountant’s reasoning. Similarly, when faced with the proffer of legal expert testimony regarding an attorney’s standard of care, the traditional approach would require an inquiry only into the attorney’s education and experience in this area of the law. The court would not ask how the expert reached the conclusion about the appropriate standard of care. The presumption is that, given the showing of required expertise, the court can trust the expert’s conclusions. That trust, however, may be unwarranted. A court must not assume that because an attorney or an accountant has many years of relevant experience in a particular area, that witness would not manipulate the testimony to please a paying client. 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.²⁷³

270. *Id.* at 363.

271. *See id.* at 363-64.

272. *See Imwinkelried, supra* note 10, at 2281.

273. *See* L. Timothy Perrin, *Expert Witness Testimony: Back to the Future*, 29 U. RICH. L. REV. 1389, 1453 (1995) (“Rule 702’s ‘liberal thrust’ is inconsistent with a paid expert working as an advocate to persuade the jury of the client’s position. The Rules should be skeptical of experts, not trusting and accepting.”).

The Tenth Circuit's analysis in *Compton v. Subaru of America, Inc.*,²⁷⁴ albeit atypical, is a good example of the loophole for "junk" expert evidence that the traditional approach helps create. In *Compton* a passenger injured in a rollover accident prevailed in a products liability action against the automobile manufacturer and the distributor.²⁷⁵ On appeal, the defendants argued that the district court failed in its gatekeeping duties and erroneously admitted the testimony of the plaintiff's design expert.²⁷⁶ The Tenth Circuit held that the trial court did not abuse its discretion in allowing an engineer to testify as to whether the roof design and the support system of the automobile were defective.²⁷⁷ Although the Tenth Circuit affirmed the lower court's decision, it also held that the lower court erred in performing the *Daubert* analysis: where expert testimony is not based on any particular methodology or technique, but instead on general engineering principles and the expert's twenty years of engineering experience, the *Daubert* inquiry is not required.²⁷⁸

The *Compton* decision seems to turn *Daubert* on its head. Instead of proving the soundness of the methodology, an expert can get around the *Daubert* inquiry by saying that no methodology was used at all. The *Daubert* Court limited its holding to scientific knowledge, but it does not mean that other types of specialized knowledge need not be grounded in sound methodology. As a general principle, it is illogical to suggest that some experts do not use any methodology. Experts arrive at their conclusions through methodology. If there is no methodology, then the expert's opinion is necessarily speculative and, thus, inadmissible.²⁷⁹

The product-design testimony in *Compton* is a classic example of expert evidence based on engineering methodology.²⁸⁰ Several other courts faced with this type of evidence have exhibited a great deal of caution in admitting it and have vigilantly scrutinized both the data and the methodology of the experts.²⁸¹ The engineering

274. 82 F.3d 1513 (10th Cir.), *cert. denied*, 117 S. Ct. 611 (1996).

275. *See id.* at 1515.

276. *See id.*

277. *See id.* at 1520.

278. *See id.* at 1519-20.

279. *See* WRIGHT & GOLD, *supra* note 266, at 225-27 & n.45.

280. *See Compton*, 82 F.3d at 1516 (expert evidence based on inspection of the vehicle and comparison of the measurements); *see also* Habecker v. Clark Equip. Co., 36 F.3d 278, 290 (3d Cir. 1994) (expert evidence based on accident simulation).

281. *See, e.g.*, Deimer v. Cincinnati Sub-Zero Prods., Inc., 58 F.3d 341, 344-45 (7th

expert in *Compton* did use various methods to reach his conclusion about the automobile's defective design.²⁸² He inspected the accident vehicle and an identical undamaged car.²⁸³ He compared the headroom measurements in the accident vehicle with measurements compiled from hundreds of other accident vehicles that he had examined during his career.²⁸⁴ Based on those observations and on six technical and safety publications, the expert proposed roof crash and headroom requirements.²⁸⁵ There appeared to have been abundant data and methodology for the *Compton* court to evaluate, which puts in doubt the court's finding that the expert's testimony "was not based on any particular methodology or technique."²⁸⁶ But the court found that because the testimony was based on "general engineering principles and concepts," no *Daubert* scrutiny was required.²⁸⁷ The task of evaluating the credibility of this engineering testimony was left to the jury.

The *Compton* case creates a loophole that is hard to ignore. The less support an expert offers in the form of a particular method or technique, the less chance that *Daubert* will apply. And without *Daubert's* scrutiny for reliability, all an expert has to show is proper qualifications.

That is why *Daubert's* methodology-oriented approach is superior to the traditional approach in ensuring that only reliable expert evidence is presented at trial. The court's active gatekeeping role relieves the jury from the arduous task of weighing the credibility of highly specialized expert evidence. At the same time, *Daubert's* emphasis on the reliability of the methodology forces expert witnesses to substantiate their conclusions with something more than just credentials. Nothing in the language of the *Daubert* opinion suggests that the Court intended the relevance and reliability requirements to be limited to scientific testimony. *Daubert's* principles of ensuring the reliability of expert testimony are highly pertinent to nonscientific testimony and

Cir. 1995) (affirming the exclusion of the testimony by a product design expert because "the witness did not conduct any studies or analysis to substantiate his opinion"); *Habecker*, 36 F.3d at 289-90 (holding inadmissible expert testimony by an accident reconstructor because of the significant flaws in the accident simulation experiment).

282. See *Compton*, 82 F.3d at 1516-17.

283. See *id.* at 1516.

284. See *id.*

285. See *id.* at 1516-17.

286. *Id.* at 1519.

287. *Id.* at 1520.

should be applied by all federal courts.

2. Daubert's four-part test

While *Daubert's* reliability principles are applicable to all types of expert evidence, the same cannot be said for the four-part test. These four nonexclusive factors were designed to assess the validity of scientific theories that undergo extensive experimental testing, peer review by fellow scientists, and publication in scientific journals.²⁸⁸ Because the *Daubert* test was formulated for Newtonian science, it can only be applied to these disciplines.²⁸⁹ When faced with the proffer of nonscientific expert testimony, courts must examine factors more appropriate to the nonscientific expertise in question.²⁹⁰

One need only observe the results of a trial court's attempt to literally apply the *Daubert* test to a nonscientific expert to be fully assured of the need for a different analysis of nonscientific evidence. In *Berry v. City of Detroit*²⁹¹ the Sixth Circuit applied the *Daubert* factors to the very non-Newtonian "science" of police discipline.²⁹² In *Berry* a police officer testified that the Detroit Police Department's failure to properly discipline its officers was the proximate cause of an officer shooting the victim.²⁹³ In a later part of the opinion, the court analyzed the expert's methodology and found it "as suspect as his conclusions."²⁹⁴ The court also concluded that the expert lacked the qualifications needed to testify on this matter.²⁹⁵ The holding in this case and the analysis of the expert's methodology are beyond reproach, as they are entirely consistent with *Daubert*. Earlier in the opinion, however, the court literally applied *Daubert's* four-prong test to the expert's testimony.²⁹⁶ This analysis serves as an unintended demonstration of how inapplicable the *Daubert* test is to nonscientific evidence.

288. See *supra* Part IV.A.

289. For a discussion of *Daubert's* four-part test as it pertains to Newtonian science, see *supra* Part IV.A.

290. For a discussion of these factors, see *infra* Part V.

291. 25 F.3d 1342 (6th Cir. 1994).

292. See *id.* at 1348.

293. See *id.*

294. *Id.* at 1352.

295. See *id.* (expert's "credentials as set forth in the record do not qualify him to know any more about what effect claimed disciplinary shortcomings would have on the future conduct of 5,000 different police officers than does any member of the jury").

296. See *id.* at 1350-51.

The *Berry* court first inquired into whether the expert's discipline theory had been tested, and unsurprisingly discovered that it had not.²⁹⁷ Unlike practitioners of Newtonian science, who seek to replicate their experiments with consistent results, police officers cannot easily test their disciplinary theories. The court's examination of whether the theory is based on data, calculations or observations, or whether the witness just made it up, is entirely appropriate. But requiring the testing of such a behavioral theory may not be feasible. It is doubtful that any single experiment could conclusively show the effects of a failure to discipline police officers over a period of time.

Next, the court looked at whether the disciplinary theory had been subject to peer review and publication.²⁹⁸ Again, the Sixth Circuit was disappointed by the result.²⁹⁹ The police officer claimed to have written some articles and a textbook on jail administration,³⁰⁰ but there was no testimony as to any peer review. That comes as no surprise since a not-so-scientific theory on police discipline would not have been submitted to the kind of peer review that exists within the scientific community. Only in the formal, traditional sciences is there an established practice of publication and peer review. While there are police journals that publish articles on police discipline, there is no system of formal peer review for these publications. Even when a nonscientific theory is generally accepted, it may lack formal support from other professionals in the field.

Finally, the court found no evidence of general acceptance of the witness's theories.³⁰¹ The *Daubert* Court talked about general acceptance within the "relevant scientific community."³⁰² The *Berry* court itself stated later in its opinion that "there is no such 'field' as 'police policies and practices.'"³⁰³ One wonders in which relevant community the *Berry* court wished to see the witness's theory generally accepted.

As the *Berry* case demonstrates, *Daubert's* four factors do not offer a useful measure of the reliability of nonscientific expert tes-

297. *See id.* at 1350.

298. *See id.*

299. *See id.* at 1350-51.

300. The witness failed, however, to produce evidence of any of these publications at trial. *See id.*

301. *See id.* at 1351.

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

303. *Berry*, 25 F.3d at 1352.

timony. They were aimed at science and are applicable only to science. Therefore, since *Daubert's* reliability principles are applicable to all types of expert testimony, while its four factors are applicable only to science, the *Daubert* Court must have intended for courts to use different criteria in evaluating nonscientific expert testimony.

V. APPLICATION OF *DAUBERT'S* RELIABILITY REQUIREMENT TO NONSCIENTIFIC EXPERT TESTIMONY

Although *Daubert's* general observations are dedicated to the evaluation of scientific knowledge, the Court's analysis of what constitutes knowledge is valuable in analyzing other types of expert testimony. The *Daubert* Court defined knowledge as "more than subjective belief or unsupported speculation."³⁰⁴ The Court further stated that "[p]roposed testimony must be supported by appropriate validation—*i.e.*, 'good grounds.'"³⁰⁵

It must be noted that *Daubert* does not require the judge to evaluate the soundness of the expert's conclusions, only the soundness of the way the expert arrived at those conclusions.³⁰⁶ In other words, acting as a gatekeeper, the court's role is to ensure that all evidence that passes through its doors has at least the earmarks of reliability. This does not require that the court verify, to any degree of certainty, that the testimony is indeed valid—that would not be feasible for judges who are not themselves experts in the relevant field. More importantly, this is not the court's role. At the conclusion of the *Daubert* opinion, the Court expressed its confidence in "the capabilities of the jury and of the adversary system generally."³⁰⁷ Once the expert's testimony is held sufficiently reliable to be admissible, its weaknesses will be fleshed out in the ordinary course of trial proceedings, and the jury will assign it the appropriate weight.³⁰⁸ But in order to have the requisite indicia of

304. *Daubert*, 509 U.S. at 590.

305. *Id.*

306. See Kesan, *supra* note 18, at 2018 ("The Supreme Court in *Daubert* emphasized that 'the focus [of the trial judge's inquiry] must be solely on principles and methodology, not on the conclusions that they generate.'" (alteration in original) (quoting *Daubert*, 509 U.S. at 595)).

307. *Daubert*, 509 U.S. at 596; see also Thomas A. Wiseman, Jr., *Judging the Expert*, 55 OHIO ST. L.J. 1105, 1109 (1994) ("The gatekeeper's role boils down to assessing reliability and credibility, in fairness to both sides, with a healthy respect for the traditional function of the jury.").

308. See *Daubert*, 509 U.S. at 596 ("Vigorous cross-examination, presentation of

reliability, the evidence must be based on "good grounds."³⁰⁹ That determination requires more than mere examination of the expert's qualifications. In order to ensure that the testimony is "more than subjective belief or unsupported speculation,"³¹⁰ the court must always ask *how* an expert reached a conclusion. The court should examine both the data on which the expert relied, as well as the methodology or reasoning the expert used in forming the conclusion. Without this inquiry, a judge will not be able to distinguish valid expert testimony from fancily worded speculation.

A. Examining the Expert's Data

To assure the trial judge of the validity of their testimony, experts must always be able to point to specific data on which their testimony is based. That data can come from the facts of the case, measurements performed by an expert, specialized literature, instruction manuals, or even information obtained from an educational course. It may also come from the expert's personal experience.³¹¹ Many nonscientific experts derive their expertise from years of experience in a particular field.³¹² The 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. For example, an experienced merchant may wish to testify on the usage of trade in international commercial transactions. The court must evaluate the number of years the witness has been involved in international trade and whether this experience is sufficient to enable the witness to reach a well-grounded conclusion on the usage of trade.

The *Daubert* opinion reminds judges faced with the proffer of expert testimony to be mindful of other applicable Evidence Rules.³¹³ Indeed, Rule 703 offers valuable guidance in this matter. It allows the facts or data upon which the expert opinion is based to be derived from first-hand observations, hypothetical questions,

contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.").

309. *See id.* at 590.

310. *Id.*

311. *See Imwinkelried, supra* note 10, at 2289 ("Experience is to nonscientific experts as experimentation is to scientists.").

312. *See id.* ("Nonscientific experts are 'experientially qualified.' Their experience largely is their expertise.").

313. *See Daubert*, 509 U.S. at 595.

or information presented to the expert outside of the court, which is "of a type reasonably relied upon by experts in the particular field."³¹⁴ Rule 703 thus assists a trial judge in deciding whether the data used by an expert forms good grounds for an expert opinion. The judge must ask whether the expert utilized the type of data that other specialists in that field would rely upon in forming their opinions.³¹⁵

The following cases help illustrate this point. In evaluating the basis for an economist's expert testimony under Rule 702, the Third Circuit considered the data used in a multiple regression analysis, and found no evidence that the data was "incomplete or inaccurate such that an economist would not rely on it."³¹⁶ In a different case involving expert testimony by an economist, the Fifth Circuit affirmed the exclusion of proffered testimony because of serious flaws in the expert's data.³¹⁷ The expert sought to testify about the shorter worklife expectancy of an oilfield worker based on a study on the subject.³¹⁸ The testimony was offered to establish that the plaintiff was likely to have a shorter worklife and should therefore not receive damages based on an average worklife.³¹⁹ The court found the testimony "not sufficiently reliable" because the study did not compare the worklife of an oilfield worker with the national average or with the expected worklife of those in other occupations.³²⁰

*Cook v. American Steamship Co.*³²¹ is an excellent example of why it is necessary to always evaluate the data that forms the basis for an expert's opinion. A rope-testing expert testified that a rope supporting a plaintiff in a boatswain's chair broke because it had been exposed to a "localized heat source."³²² The expert had worked for a testing laboratory for thirteen years.³²³ He had ex-

314. FED. R. EVID. 703.

315. "The physician makes life-and-death decisions in reliance upon [statements by patients, medical reports, hospital records, and X-rays]. His validation, expertly performed and subject to cross-examination, ought to suffice for judicial purposes." FED. R. EVID. 703 advisory committee's note.

316. *Petruzzi's IGA Supermarkets, Inc. v. Darling-Delaware Co.*, 998 F.2d 1224, 1238 (3d Cir. 1993).

317. *See Marcel v. Placid Oil Co.*, 11 F.3d 563, 567-68 (5th Cir. 1994).

318. *See id.* at 567.

319. *See id.*

320. *See id.* at 568.

321. 53 F.3d 733 (6th Cir. 1995).

322. *Id.* at 739.

323. *See id.* at 738.

expertise in stress and failure testing and was qualified as an expert in testing under Rule 702.³²⁴ If qualifications were all that the court had examined, the expert testimony would have been held admissible. The court, however, went beyond the expert's qualifications, and discovered that there was no basis for the expert's opinion.³²⁵ He did not test the rope in question and had no data to analyze.³²⁶ The court held the testimony inadmissible for failure to "perform tests or otherwise call upon any 'scientific, technical, or other specialized knowledge' that would have given him a valid basis upon which to form his opinion."³²⁷

Courts should never abandon an inquiry into the basis for an expert's opinion simply because there is no numerical data to analyze. In the legal profession, for example, the data on which a legal expert relies would typically be nontechnical in nature, but it is just as important to scrutinize that data for reliability. For instance, in *American International Adjustment Co. v. Galvin*,³²⁸ an issue of legal expertise came up in the summary judgment context. The magistrate judge presiding over the malpractice trial granted partial summary judgment in favor of the plaintiffs, holding that the defendant attorney had breached the standard of care as a matter of law.³²⁹ The Seventh Circuit reversed the magistrate's ruling based on the testimony from a legal expert stating that the defendant was not negligent.³³⁰ In his dissent Chief Judge Posner criticized the majority's reliance on "an expert's conclusional statements."³³¹ Judge Posner stated that to allow a defendant to defeat a motion for summary judgment with an expert's unsubstantiated, "naked" conclusions would be "to confuse admissibility with weight."³³² Judge Posner further asserted that *Daubert* "has implications for nonscientific expert testimony."³³³ To be admissible, expert testimony must adhere to the standards of intellectual rigor required in the expert's profession, although what constitutes

324. *See id.* at 739.

325. *See id.* at 738-39.

326. *See id.*

327. *Id.* at 740.

328. 86 F.3d 1455 (7th Cir. 1996).

329. *See id.* at 1458.

330. *See id.* at 1462.

331. *Id.* at 1464 (Posner, J., dissenting).

332. *Id.* (Posner, J., dissenting).

333. *See id.* at 1465 (Posner, J., dissenting).

that intellectual rigor will differ from field to field.³³⁴

Borrowing from the wisdom of Judge Posner's analysis, the proper inquiry should be the following: What would other professionals in this field require experts to show by way of data to support their conclusions? For instance, legal professionals use research to substantiate their legal conclusions. Statutes, cases, treatises, and other materials constitute the data upon which practicing lawyers rely in forming their opinions. Lawyers are required to cite to these materials in practice, and legal experts should be required to do so in court.

B. Examining the Expert's Methodology

Having examined the expert's data, the court must consider whether the expert's conclusions are reasonably based on that data. This inquiry involves examining the validity of the expert's methodology. The relevant question is whether the expert's way of arriving at the conclusion has a basis in logic and is consistent with the methods used by other experts in that field. In discussing the weaknesses in the legal expert's testimony in *Galvin*, Judge Posner said the following:

A lawyer who is asked to testify about the standard of care in trying a personal injury case is not expected to employ the scientific method, because he doesn't use that method in his ordinary professional work. But he is expected to defend his conclusions with reasons. That is the essence of professionalism. . . . Twice the majority opinion remarks that the expert testified "repeatedly" that [defendant] had not been negligent. That is true. But a conclusion is not rationally strengthened by being reiterated.³³⁵

An expert's methodology may involve a set of assumptions, and courts must always scrutinize those assumptions for indicia of reliability. For example, in *Frymire-Brinati v. KPMG Peat Marwick*,³³⁶ an accounting expert, who used a discounted cash flow analysis to reach his conclusions, assigned a zero value to projects with low or negative net cash flow.³³⁷ The expert's method implied that undeveloped land or a fully leased but as yet unoccupied of-

334. *See id.* (Posner, J., dissenting).

335. *Id.* (Posner, J., dissenting).

336. 2 F.3d 183 (7th Cir. 1993).

337. *See id.* at 186.

fice building in the final stages of construction has no value because it has not yet produced any positive cashflow.³³⁸ The court found these assumptions unsound and inconsistent with accounting norms.³³⁹ Similarly, in *Joy v. Bell Helicopter Textron, Inc.*,³⁴⁰ the District of Columbia Circuit held that an economist's expert testimony regarding a helicopter crash victim's potential earnings was inadmissible because it was based on speculative assumptions regarding the changes a victim might have made in his career or investments he might have made.³⁴¹

Other circuit cases discussed in Part III.C of this Comment offer many examples of courts' analyses of expert methodology.³⁴² Courts have reviewed methods used by a civil engineer,³⁴³ real estate appraiser,³⁴⁴ handwriting expert,³⁴⁵ economist,³⁴⁶ rare coins evaluator,³⁴⁷ banker,³⁴⁸ and other nonscientific experts.³⁴⁹ The analysis of the expert's methodology is at the heart of the *Daubert* opinion, and courts must always give it their utmost attention.

VI. CONCLUSION

While the *Daubert* decision clearly articulated the standard for admissibility of scientific expert testimony, its scope with regard to other types of expert evidence in Rule 702 remains unclear. The circuit courts disagree on the application of *Daubert's* general principles and its four-part test to nonscientific expert testimony. One circuit court has literally applied *Daubert's* factors to nonscientific testimony. Several courts have declined to screen nonsci-

338. *See id.*

339. *See id.* at 186-87.

340. 999 F.2d 549 (D.C. Cir. 1993).

341. *See id.* at 568-69.

342. *See supra* Part III.C and accompanying notes.

343. *See United States v. 14.38 Acres of Land*, 80 F.3d 1074, 1079 (5th Cir. 1996) (inspecting property and reviewing maps, photographs, and data).

344. *See id.* (inspecting property, looking at comparable sales, and discussing the property with other professionals in the field).

345. *See United States v. Velasquez*, 64 F.3d 844, 850-51 (3d Cir. 1995) (comparing identifiable individual characteristics of the questioned handwriting to those of the submitted handwriting specimens).

346. *See Joy*, 999 F.2d at 568 (estimating the value of the helicopter crash victim's real estate investments and potential lifetime earnings).

347. *See United States v. Kayne*, 90 F.3d 7, 11-12 (1st Cir. 1996).

348. *See Den Norske Bank AS v. First Nat'l Bank*, 75 F.3d 49, 57-58 (1st Cir. 1996) (familiarizing with commercial agreements and personally observing industry customs).

349. *See supra* Part III.C for other examples of expert methodology evaluation.

entific expert testimony for reliability and continued to follow the traditional, pre-*Daubert* approach that focuses on expert qualifications as a benchmark for admissibility.

The majority of courts, however, have assumed a more active gatekeeping role and extended *Daubert's* reliability principles to nonscientific expert testimony. This approach represents the trend in federal courts. It is also an appropriate extension of *Daubert's* general principles beyond the narrow context of scientific testimony.

Daubert's four factors were formulated for Newtonian science, and are typically not applicable to nonscientific bodies of knowledge. But *Daubert's* reliability principles are just as pertinent where nonscientific expert testimony is concerned. Expert testimony, by its nature, falls outside the scope of knowledge and experience of an average juror. Thus, jurors find it difficult to accurately weigh the reliability of this testimony and often tend to treat it with unquestioning deference. In an era where a party can easily purchase favorable expert testimony, such deference toward an expert's opinion endangers the accuracy of the outcome of a trial. Traditionally, courts have focused on an expert's qualifications as a threshold determination of the admissibility of expert testimony. This reliance on the expert's qualifications, however, does not provide sufficient safeguards against speculative expert testimony. To prevent introduction of unsubstantiated expert opinions, judges must assume the more active gatekeeping role discussed in *Daubert*.

The extension of *Daubert's* reliability principles to nonscientific testimony requires a judge to take a vital step beyond expert qualifications and directly examine the reliability of the expert's methodology. Naturally, this gatekeeping inquiry should not rest on *Daubert's* science-oriented factors, and its focus will inevitably vary depending on the nature of the specialized expertise. But irrespective of the body of knowledge on which expert opinion is based, courts must always require expert witnesses to support their conclusions with the type of data and methodology that professionals in their field rely upon in making their decisions. Only

through a careful examination of an expert's data and methodology can a court fulfill its gatekeeping duty and ensure that a witness offers more than an unsupported speculation adorned with the title of "expert opinion."

*Jennifer Laser**

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MEMORIAL DEDICATION TO
RICHARD A. GADBOIS, JR.



