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Evidence - Admissibility of Scientific Evidence in Federal Courts - The Supreme Court Decides Frye Is Dead and the Federal Rules of Evidence Provide the Standard, but Is There a Skeleton in the Closet - Daubert v. Merrell Dow Pharmaceuticals

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Casenotes

EVIDENCE—ADMISSIBILITY OF SCIENTIFIC EVIDENCE IN FEDERAL COURTS—The Supreme Court Decides *Frye* is Dead and the Federal Rules of Evidence Provide the Standard, But Is There a Skeleton in the Closet? *Daubert v. Merrell Dow Pharmaceuticals*, 113 S. Ct. 2786 (1993).

Jason Daubert[1] was born with severe and permanent limb-reduction deformities. While she was pregnant, Jason's mother ingested the prescription drug Bendectin to reduce pregnancy-induced nausea.[2] In 1984, Jason and his parents sued Merrell Dow Pharmaceuticals (Merrell Dow), the manufacturer of Bendectin.[3] Jason alleged that his mother's pre-natal ingestion of Bendectin caused his birth defects.[4]

Merrell Dow sought summary judgment[5] after both parties conducted extensive discovery.[6] Merrell Dow's motion was predicated on the grounds that Jason Daubert (Daubert) would be unable to offer any admissible scientific evidence to establish that Bendectin caused his birth defects or that Bendectin causes birth defects in humans, generally.[7] To defeat the motion for summary judgment, Daubert submitted

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1. Eric Schuller and his parents were co-plaintiffs in this suit. For simplicity, this casenote will refer to Jason Daubert only. Brief for Petitioner On Writ of Certiorari to the United States Court of Appeals for the Ninth Circuit at 7, Daubert v. Merrell Dow Pharmaceuticals, 113 S. Ct. 2786 (1993) (92-102) [hereinafter Petitioner's brief]. Their suits were initiated individually in a California state court. Merrell Dow removed the suits to the United States District Court for the Southern District of California. Daubert v. Merrell Dow Pharmaceuticals, 113 S. Ct. at 2791.

2. Bendectin was available in the United States from 1956 until 1983, when Merrell Dow voluntarily removed it from the market. Brief for Respondents On Writ of Certiorari to the United States Court of Appeals for the Ninth Circuit at 6-8, Daubert v. Merrell Dow Pharmaceuticals, 113 S. Ct. 2786 (1993) (92-102) [hereinafter Respondent's brief].

3. Jason Daubert and his parents brought suit on September 17, 1984; Eric Schuller, through his guardian, brought suit on May 11, 1984. *Id.* at 8.

4. *Daubert*, 113 S. Ct. at 2791.

5. Daubert v. Merrell Dow Pharmaceuticals, 727 F. Supp. 570 (S.D. Cal. 1989).

6. *Daubert*, 113 S. Ct. 2791.

7. In product liability cases the burden of proof is on the plaintiff. W. PAGE KEETON ET AL., PROSSER & KEETON ON TORTS § 99, at 696 (5th ed. 1984). Consequently, these cases turn on plaintiffs' ability to establish causation.

either testimony or affidavits from eight expert witnesses.[8] On the issue of causation, the experts presented evidence on teratology (the study of human deformities)[9] and epidemiology (the study of diseases),[10] using data obtained from four different scientific methodologies.[11] All of the expert testimony offered by Daubert concluded that Bendectin was a human teratogen.[12] Merrell Dow objected to Daubert's evidence on the grounds that it did not qualify as "generally accepted" in the scientific community and that it was not properly before the court as evidence to establish causation.[13]

The district court, relying on extensive case precedent,[14] agreed with Merrell Dow.[15] As a consequence, the court excluded Daubert's proffered evidence from the record before it ruled on the summary judgment motion.[16] The court did not specifically cite *Frye v. United*

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8. *Daubert*, 727 F. Supp. at 573. Daubert's witnesses included experts in biostatistics, epidemiology, pathology, toxicology and chemistry. *Id.* at 574. Some of these experts (e.g. Dr. Swan) were retained by other Bendectin plaintiffs as expert witnesses in earlier suits. Michael D. Green, *Expert Witnesses and Sufficiency of Evidence in Toxic Substances Litigation: The Legacy of Agent Orange and Bendectin Litigation*, 86 NW. U.L. REV. 643, 665 (1992).

9. Teratology is the branch of science concerned with the production, development, anatomy and classification of malformed fetuses. STEDMAN'S MEDICAL DICTIONARY 1418 (5th ed. 1982).

10. Epidemiology is the study of the prevalence and spread of disease in a community. DORLAND'S ILLUSTRATED MEDICAL DICTIONARY 451 (26th ed. 1985).

11. The four methodologies included: 1) "in vivo" animal studies that compared the offspring of animals who had ingested Bendectin during pregnancy with offspring of those who did not ingest Bendectin; 2) "in vitro" studies that examined animal cells exposed to Bendectin for abnormal cell development associated with human limb defects; 3) pharmacological studies that examined the chemical structure of Bendectin and compared its structure with similar substances known to cause comparable birth defects in humans; and 4) epidemiological studies using data gathered in studies comparing the incidence of various birth defects in the offspring of women who took Bendectin with those who did not. *Daubert*, 113 S. Ct. 2791-92; *see also* Petitioner's brief, *supra* note 1, at 9-10.

Daubert's experts did not design and conduct these studies, but reanalyzed the data from previous studies that utilized the methodologies described above. Daubert also offered testimony from experts used by Merrell Dow in other litigation, which stated that the four scientific methodologies were both useful and necessary for establishing the cause of birth defects. Merrell Dow's experts testified that they had relied on data generated using the methodologies that Merrell Dow was now questioning to draw conclusions on the human effect of a substance. In some instances the experts even identified the chemical component of Bendectin which they suspected was the teratogenic agent. Petitioner's brief, *supra* note 1, at 9-10.

12. The conclusions drawn by Daubert's expert witnesses were supported by six volumes of exhibits containing trial deposition testimony and documentary material. Merrell Dow, on the other hand, submitted one affidavit from a physician/epidemiologist in support of its motion for summary judgment. Petitioner's brief, *supra* note 1, at 8-10.

13. The circuit court adopted the prevailing school of thought amongst circuit courts (*see infra* text accompanying note 45), which permitted only epidemiological evidence to establish causation in Bendectin suits. *Daubert*, 727 F. Supp. at 572.

14. *See infra* text accompanying notes 44-45.

15. *Daubert*, 727 F. Supp. at 576.

16. The four scientific studies relied upon by Daubert's experts were analyzed statistically to determine whether Bendectin was more likely than not to cause birth defects in humans. Statisticians

States[17] in its opinion, yet it applied the *Frye* standard, using the phrase "general acceptance,"[18] which is the hallmark of the *Frye* test.

In its memorandum decision, the district court granted Merrell Dow's motion for summary judgment and dismissed the complaints, stating that evidence objected to by either party should be excluded before there is a ruling on the motion. This meant that Daubert's evidence was excluded from the summary judgment record.[19] The court also held that scientific or technical evidence not generally accepted by the appropriate technical forum must be excluded as well.[20] Moreover, the court found that only statistically significant epidemiological evidence is appropriate to establish causation in Bendectin cases.[21] Essentially, all the evidence offered by Daubert was inadmissible. As with other Bendectin plaintiffs, Daubert's heaviest burden would be getting his evidence admitted into court.[22]

Daubert appealed the summary judgment ruling to the United States Court of Appeals for the Ninth Circuit, which affirmed the district court.[23] The court of appeals relied upon *Frye v. United States*[24] as authority for holding that Daubert's scientific evidence was inadmissible because it did not qualify as "generally accepted" by other experts in the fields of teratology and epidemiology.[25] According to the court, expert opinion must be based on a methodology recognized

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generally, but not always, consider results that fall below the 95% confidence level to be inconclusive. The tests conducted and analyzed by Daubert's experts were unable to obtain results at, or above, the 95% confidence level (a confidence level is a point, chosen somewhat arbitrarily, at which a statistical analysis can be considered to have an acceptable measure of error). The reason offered for the inability to reach this measure of "statistical significance" was that limb reduction in humans was very uncommon. As a result, studies would not yield statistical significance at the 95% confidence level unless larger populations than those in the Bendectin studies were followed. Daubert's experts supported their "inconclusive" studies of human limb deformities with additional studies (at the 95% confidence level) associating Bendectin with three other human birth defects and teratogens that damage developing cells, tending to leave multiple abnormalities. Merrell Dow refused to find that causation was more probable than not when the epidemiological evidence was below the 95% statistical confidence level, although the evidence was "strongly positive." The district court was not persuaded that the methodologies proffered by Daubert were scientifically (i.e., generally) acceptable. *Daubert*, 727 F. Supp. at 572; *see also* Petitioner's brief, *supra* note 1, at 12-14, and V. Brannigan, V. Bier, and C. Berg, *Risk, Statistical Inference, and the Law of Evidence: The Use of Epidemiological Data in Toxic Tort Cases*, 12 Risk Analysis 343 (1992).

17. 293 F. 1013 (D.C. Cir. 1923).
18. *Daubert*, 727 F. Supp. at 572.
19. *Id.*
20. *Id.*
21. *Id.* at 575.
22. *See infra* note 44 and accompanying text.
23. Daubert v. Merrell Dow Pharmaceuticals, 951 F.2d 1128, 1131 (9th Cir. 1991).
24. 293 F. 1013 (D.C. Cir. 1923).
25. *Daubert*, 951 F.2d at 1130.

within the limits of the appropriate scientific community to qualify as generally accepted.[26] Stating that Daubert's data were unpublished and had not been subjected to the peer review process,[27] the court of appeals agreed with the district court that the reanalyses would not meet the generally accepted standard.[28]

The court of appeals also confirmed the district court's ruling that only "statistically significant"[29] epidemiological evidence, not reanalyses of epidemiological studies, would be permitted to establish causation.[30] The lack of peer review[31] and the court of appeals' suspicion that the data had been generated solely for use in litigation[32] were additional factors which contributed to the court's reluctance to admit the data as evidence supporting Daubert's position.

After the court of appeals affirmed the summary judgment order, Daubert took his case to the United States Supreme Court.[33] Daubert asked the Court to decide whether the *Frye* test or the Federal Rules of Evidence is the proper standard for determining admissibility of scientific evidence.[34] The Supreme Court, in a unanimous decision,[35] vacated and remanded the court of appeals' decision, holding that the Federal Rules of Evidence apply to cases heard in federal courts.[36] The Supreme Court's decision means that evidence will now be evaluated according to the relevancy standard as established by the Federal Rules of Evidence.[37]

Roughly 2000 Bendectin-related suits were filed in federal district courts around the country between 1977 and the early 1980s.[38] Most of

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26. *Id.* (quoting United States v. Solomon, 753 F.2d 1522, 1526 (9th Cir. 1985)).

27. A significant portion of Daubert's expert testimony was based upon reanalyses of previous epidemiological studies. *See supra* text accompanying note 11.

28. *Daubert*, 951 F.2d at 1130.

29. The court did not indicate a standard for "statistically significant," but the cases cited in the opinion suggest that the court would require at least a 95% confidence level. *Id.* at 1128. *See supra* text accompanying note 16.

30. *Daubert*, 951 F.2d at 1130.

31. *Id.*

32. *Id.* at 1131. In a footnote, the court of appeals added that evidence generated in anticipation of litigation must be scrutinized more carefully than studies conducted in the normal course of science. *Id.* at 1131 n.3.

33. Petitioner's brief, *supra* note 1, at 16.

34. *Id.* at 7.

35. The Court decided unanimously in part II-A of the opinion that the Federal Rules of Evidence supersede the *Frye* test in federal courts. *Daubert*, 113 S. Ct. at 2792. The remainder of the opinion was joined by seven Justices, while Justices Rehnquist and Stevens dissented. *Id.* at 2799.

36. *Id.* at 2793.

37. *Id.*

38. Green, *supra* note 8, at 661 n.82.

these cases alleged some form of strict liability, negligence and/or breach of warranty; only two resulted in a jury verdict for the plaintiff.[39] The substantive law issues in toxic substance cases, such as these, are certainly worthy of analysis. However, the *Daubert v. Merrell Dow Pharmaceuticals* decision effectively changed the standard of the admissibility of scientific evidence in courts that have adopted the Federal Rules of Evidence. This casenote will consider the status of admissibility of scientific evidence in federal courts before and after *Daubert*, using Jason Daubert's case to emphasize the significance of the new admissibility standard. It will also specifically address the impact of *Daubert* on state courts that have adopted the Federal Rules of Evidence, concentrating on Wyoming case law and rule interpretation. Ultimately, this casenote will suggest that the Daubert opinion improved the law of evidence by liberalizing the evidentiary standard for scientific evidence.

BACKGROUND

The admissibility of evidence in the federal court system is controlled by common law case precedent and the Federal Rules of Evidence.[40] The *Frye* test is a special rule of admissibility that grew out of a federal circuit court decision.[41] The *Frye* test is discussed separately from other case precedent in this section because of its significance as an admissibility standard.

Case Precedent In Bendectin Litigation

Courts have responded to the overwhelming volume of evidence offered for admissibility, especially in toxic substance suits, by creating case precedent which defines and consequently limits the types of admissible evidence.[42] This is especially true for complex technical litigation, such as the Bendectin cases.[43] Earlier courts hearing Bendectin cases established epidemiology as the only reliable scientific discipline available for establishing causation[44] in Bendectin cases. The

39. Mekdeci v. Merrell National Lab., 711 F.2d 1510 (11th Cir. 1983) (lower court's verdict for the plaintiff was set aside and the defendant eventually prevailed), and Oxendine v. Merrell Dow Pharmaceuticals, 506 A.2d 1100 (D.C. Cir. 1986); *see generally* Green, *supra* note 8, at 661-68 for a detailed description of Bendectin related litigation.

40. JOHN W. STRONG ET AL., MCCORMICK ON EVIDENCE § 203, at 362 (4th ed. 1992).

41. *Id.*; *see generally* Paul C. Giannelli, *The Admissibility of Novel Scientific Evidence: Frye v. United States, a Half-Century Later*, 80 COLUM. L. REV. 1197 (1980).

42. *See* Green, *supra* note 8, at 671.

43. *Id.* at 661-68.

44. Causation in mass tort litigation, such as the Bendectin and Agent Orange cases, was dif-

influence of these earlier decisions was dispositive of how Daubert's suit would ultimately be handled in the federal district court and the court of appeals.[45]

The Frye Test

In 1923, the Court of Appeals for the District of Columbia Circuit decided *Frye v. United States*.[46] *Frye* was an appeal from a lower court's decision not to admit as evidence the results of a "systolic blood pressure deception test" (polygraph, or "lie detector" test).[47] The court of appeals affirmed the lower court and stated that the proposed scientific methodology "must be sufficiently established to have gained general acceptance in the particular field in which it belongs"[48] before it should be allowed into the courtroom as evidence. The *Frye* court thus established the "general acceptance" test that was to endure, in one form or another, until the Supreme Court decided *Daubert* on June 28, 1993.

As applied in the modern federal court system, the *Frye* test requires that evidence undergo a twofold evaluation.[49] First, the court evaluating the evidence for admissibility must determine the field in which the underlying scientific principle belongs.[50] Next, the court

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ficult to establish. Courts reacted to the voluminous expert testimony presented by plaintiffs by restricting causation testimony to epidemiology. Epidemiological data is the most desirable evidence "because it can best be generalized to support inferences about the effect of an agent in causing disease." Green, *supra* note 8, at 646 (which also provides a detailed description of Bendectin litigation).

45. The district court in *Daubert v. Merrell Dow Pharmaceuticals* cited seven Bendectin and Agent Orange cases from other circuits because these cases already had determined what evidence was admissible for establishing causation in toxic substance suits. The district court did not cite Frye v. United States, 293 F. 1013 (D.C. Cir. 1923), but based its analysis of the evidence presented on the following federal circuit court decisions which specifically adopted the *Frye* test: Brock v. Merrell Dow Pharmaceuticals, 874 F.2d 307 (5th Cir. 1989) (failure to present statistically significant epidemiological evidence that Bendectin causes limb defects was fatal to case); Richardson v. Richardson-Merrell, 857 F.2d 823 (D.C. Cir. 1988) (causation may be shown only through reliance upon epidemiological evidence)(Merrell Dow was formerly Richardson-Merrell, Inc.); Lynch v. Merrell National Laboratories, 830 F.2d 1190 (1st Cir. 1987) (causation may be shown only through reliance upon epidemiological evidence). *Daubert*, 727 F. Supp. at 572.

46. 293 F. 1013 (D.C. Cir. 1923). The defendant in *Frye* was being tried for second-degree murder in federal court. The defense was relying on the results of a systolic blood pressure deception test (precursor to the polygraph test) to persuade the jury that Mr. Frye was innocent.

47. Polygraph evidence is still somewhat controversial today. Until recently it was considered pseudo-scientific at best. Giannelli, *supra* note 41, at 1199 n.8.

48. *Frye*, 293 F. at 1014. The court cited no authority for this rule, nor did it propose any justification for it. Furthermore, the court gave no indication that it meant this to be the single standard whereby scientific evidence was to be measured. PAUL C. GIANNELLI & EDWARD J. IMWINKELRIED, SCIENTIFIC EVIDENCE § 1-5, at 10 (1986 & 1991 Supp.).

49. *Id.* § 1-5, at 16.

50. *Id.*

must decide whether the evidence is "generally accepted" by the members of that field.[51]

The *Frye* test has received both criticism and praise over the last seventy years.[52] In the federal circuit courts there has been disagreement over which standard is applicable when determining the admissibility of scientific or technical evidence. Following the enactment of the Federal Rules of Evidence, three circuits ruled that *Frye* no longer applies, while six circuits continued to apply the *Frye* standard.[53]

The Federal Rules of Evidence

The principal alternative to using the *Frye* standard to determine the admissibility of scientific evidence is to require that scientific evidence, like any other type of evidence, be relevant.[54] In general, Rule 401 defines relevant evidence[55] and Rule 402 authorizes courts to admit such relevant evidence as is not in conflict with any other authority.[56] Scientific and technical evidence is relevant, and therefore admissible under Rule 702, only if it assists the trier of fact in making a decision.

The relevancy approach is codified in the FRE (hereinafter FRE),[57] which were enacted by Congress in 1975.[58] Specific rules that

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51. *Id.*

52. *See* Green, *supra* note 8 (citing both critical and supporting authority); STRONG, *supra* note 40 (citing critical and supporting authority and discussing potential constitutional arguments constraining the *Frye* standard); Giannelli, *supra* note 41 (criticizing the *Frye* test generally).

53. Circuits courts rejecting *Frye* include: United States v. Jakobetz, 955 F.2d 786, 794-97 (2d Cir.), *cert. denied*, 113 S. Ct. 104 (1992); DeLuca v. Merrell Dow Pharmaceuticals, 911 F.2d 941, 955 (3d Cir. 1990); United States v. Baller, 519 F.2d 463, 466 (4th Cir.), *cert. denied*, 423 U.S. 1019 (1975). Six Circuits still adhering to the *Frye* test include: Ninth Circuit decision below; Christophersen v. Allied Signal Corp., 939 F.2d 1106, 1115-16 (5th Cir.) (per curium) (en banc), *cert. denied*, 112 S. Ct. 1280 (1991); United States v. Two Bulls, 918 F.2d 56, 60 & n.7 (8th Cir. 1990), *reh'g granted, vacated*, 925 F.2d 1127 (8th Cir. 1991) (en banc); United States v. Smith, 869 F.2d 348, 351 (7th Cir. 1989); United States v. Shorter, 809 F.2d 54, 59-61 (D.C. Cir.), *cert. denied*, 484 U.S. 817 (1987); United States v. Metzger, 778 F.2d 1195, 1203 (6th Cir. 1985), *cert. denied*, 477 U.S. 906 (1986).

54. GIANNELLI & IMWINKELRIED, *supra* note 48, § 1-6 at 31.

55. FED. R. EVID. 401 defines what will be considered "relevant" evidence in federal courts: "evidence having any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence." This has been called "logical" relevancy, as opposed to "legal" relevancy. STRONG, *supra* note 40, at 13.

56. FED. R. EVID. 402: "All relevant evidence is admissible, except as otherwise provided by the Constitution of the United States, by Act of Congress, by these rules or by other rules prescribed by the Supreme Court pursuant to statutory authority. Evidence which is not relevant is not admissible."

57. Pub. L. No. 93-595, 88 Stat. 1926 (1975) (codified as amended at 28 U.S.C. Federal Rules of Evidence); *see also* FED. R. EVID. 702.

58. In 1953 the National Conference of Commissioners on Uniform State Laws and the Ameri-

are helpful in the examination of scientific and technical evidence, but which are not conclusive of admissibility, are discussed briefly where appropriate.[59] Additionally, courts[60] are to interpret FRE like any other statute, using traditional tools of statutory construction.[61] One tool often employed by courts interpreting FRE is advisory committee's notes.[62] Therefore, references to advisory committee's notes have been provided to identify, where possible, the purpose and scope of a particular FRE.

The relevancy standard generally requires that evidence be relevant before it can be deemed admissible under the FRE.[63] Relevancy depends upon whether the proposed evidence makes the existence of any fact more or less probable.[64] Relevancy, as defined by the FRE, has two components, materiality and probative value.[65] Materiality is the relationship between the propositions for which the evidence is presented and the issues in the case. Probative value is the tendency of evidence to establish the proposition that it is offered to prove.[66] Rule 401 authorizes courts to eliminate evidence with no probative value.[67]

The standard for the admissibility of scientific and technical testimony under the FRE is established by Rule 702.[68] Before evidence is ruled admissible under Rule 702, three threshold criteria should be evaluated. First, the probative value of the evidence should be determined.[69] Second, the potential for the evidence to mislead the jury or

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can Bar Association approved the Uniform Rules of Evidence. The rules were meant to simplify and compile the jurisprudence of evidence. MICHAEL H. GRAHAM, MODERN STATE AND FEDERAL EVIDENCE, A COMPREHENSIVE REFERENCE TEXT, 1047 app. (1989).

59. While FRE 402 and 702 establish the criteria for admissibility of scientific and technical evidence, other FRE may assist courts in applying these rules. Fourteen FRE are directly applicable to the admissibility of scientific and technical evidence in federal courts. *See generally* FED. R. EVID. 104, 401, 402, 403, 501, 602, 701, 702, 703, 704, 705, 706, 803(18) and (24), and 804(b)(5).

60. FED. R. EVID. 104(a) ("preliminary questions concerning . . . the admissibility of evidence shall be determined by the court.").

61. Beech Aircraft Corp. v. Rainey, 488 U.S. 153, 163 (1988).

62. *See, e.g., Daubert*, 113 S. Ct. at 2796.

63. *See supra* text accompanying notes 55-56.

64. *See supra* text accompanying note 55.

65. STRONG, *supra* note 40, at 541.

66. *Id.*

67. GRAHAM, *supra* note 58, at 901-02.

68. FED. R. EVID. Rule 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."

69. Probative value of evidence is often dependent upon its reliability. Reliability, in turn, is established by the judge, or an expert, if the judge does not possess the specialized knowledge to determine reliability. The court is generally free to consider any pertinent factor in assessing evidence for admissibility. GIANNELLI & IMWINKELRIED, *supra* note 48, at 31-32.

cause other problems[70] at trial should be identified. Third, the probative value of the evidence should be balanced against the identified problems, such as misleading the jury.[71] After evaluating these criteria, courts can allow evidence into court if its probative value outweighs its identified dangers.[72]

Much argument has centered around whether the FRE precluded common law rules, such as *Frye*, in federal courts.[73] Rule 402 makes no mention of court-made rules in the listed exceptions to the relevancy standard.[74] The advisory committee's note following Rule 402 explains that not all relevant evidence is admissible. The note lists situations where relevant evidence will be inadmissable, including preemption by other FRE, Federal Rules of Civil and Criminal Procedure, Bankruptcy Rules, congressional acts, or constitutional considerations. Generally, the FRE have tended to expand admissibility beyond common law rules, but there are situations where the rules have restricted admissibility of relevant evidence.[75] There is no clear mention in the note that common law rules should be included or excluded.[76]

PRINCIPAL CASE

In *Daubert*, the United States Supreme Court held that the FRE superseded the common law *Frye* test for determining the admissibility of scientific and technical evidence in federal courts.[77] The Court's opinion was short and concise. The first part of the opinion analyzed the Court's decision to repeal the common law *Frye* test; the second part evaluated the inherent limits the

70. FED. R. EVID. Rule 403 categorizes potential dangers that may lead to exclusion of relevant evidence: unfair prejudice, confusion of the issues, misleading the jury, undue delay, waste of time, or needless or cumulative evidence.

71. GIANNELLI & IMWINKELRIED, *supra* note 48, at 34.

72. *Id.*

73. *See* Giannelli, *supra* note 41.

74. *See supra* text accompanying note 56.

75. In some situations legislative enactments which formulate a privilege or prohibition against disclosure restrict the admissibility of relevant evidence. For example, testimony by a bankrupt on his examination is not admissible in criminal proceedings against him. FED. R. EVID. 402 advisory committee's note.

76. *But see* Mark McCormick, *Scientific Evidence: Defining a New Approach to Admissibility*, 67 IOWA L. REV. 879, 888 (1982) (suggesting that the FRE may not expressly repudiate the *Frye* test).

77. *Daubert*, 113 S. Ct. at 2793. The Court's holding is narrower than what it claims. The holding would be better stated as "the FRE supersede the common law *Frye* test in determining the admissibility of scientific evidence in federal courts." *Id.* The Court specifically noted in a footnote that it had not considered evidence other than scientific evidence (i.e., technical evidence was not considered). *Id.* at 2795 n.8.

FRE place on the admissibility of evidence;[78] the third part presented "general observations,"[79] which consisted of recommendations and suggestions offered by the Court to assist federal judges in their evaluation of scientific evidence for admissibility.

The Court began its opinion by establishing that the *Frye* test had been the dominant standard for determining the admissibility of novel scientific evidence in courtrooms since 1923.[80] Despite the criticism aimed at the *Frye* test, the Court also found that a majority of courts continue to follow this rule.[81] After briefly discussing the merits of the *Frye* test, the Court presented a summary of cases, treatises, law review articles and journal articles, debating whether the FRE should be rewritten to eliminate *Frye* for good.[82] The purpose of the *Frye* test review and the literature summary was to display the Court's understanding of the current debate in this area.

The Court identified its approach by stating that the FRE[83] are to be interpreted as any statute would be interpreted.[84] The Court began its analysis with Rule 402,[85] which permits the admission of relevant evidence, because it "provided the baseline"[86] for the discussion. However, the Court found it necessary to refer to Rule 401[87] to define relevant evidence.[88] Analyzing the language in the rules, the Court determined that the FRE promoted a liberal standard of relevance;[89] essentially all relevant evidence is admissible under the FRE.[90]

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78. The Court used this part of its opinion to address particular issues and concerns brought up by Merrell Dow and amicus curiae filed on behalf of Merrell Dow. Twenty-two amicus curiae briefs were filed. Merrell Dow's position was supported (in part) with briefs filed by: "The New England Journal of Medicine, Journal of The American Medical Association, and Annals of Internal Medicine," and "The American Association for the Advancement of Science and The National Academy of Sciences."

79. The "general observations" offered by the majority are the primary reason for the dissent's opinion. The dissent considers these observations "not only general, but vague and abstract." Moreover, the dissent would "proceed with great caution in deciding more than we have to, because our reach can so easily exceed our grasp." *Daubert*, 113 S. Ct. at 2799 (Rehnquist, J., and Stevens, J., dissenting).

80. *Id.* at 2793.

81. *Id.* at 2792 n.3. *See supra* text accompanying note 53.

82. The court included references to fourteen sources, and a comment noting that the debate over this issue is so popular that terminology has developed to describe those who participate. *Daubert*, 113 S. Ct. at 2793 nn.4-5.

83. The Court referred to the FRE as "legislatively-enacted" to draw attention to the congressional involvement in enacting the rules, thereby setting the stage for judicial review. *Id.* at 2793.

84. *Id.*, (citing *Beech Aircraft Corp. v. Rainey*, 488 U.S. at 163).

85. FED. R. EVID. 402; *see supra* text accompanying note 56.

86. *Daubert*, 113 S. Ct. at 2793.

87. FED. R. EVID. 401; *see supra* text accompanying note 55.

88. *Daubert*, 113. S. Ct. at 2794.

89. *Id.* at 2790.

90. *See supra* text accompanying note 56.

Citing two cases,[91] the Court reaffirmed that the FRE prevail when there is a direct rule that speaks to the contested issue.[92] However, when there is also an existing common law rule which speaks to the issue, that rule may be used to aid in the application of the FRE.[93] Quoting from *Abel*,[94] the Court found that "[i]n principle, under the Federal Rules no common law of evidence remains. 'All relevant evidence is admissible, except as otherwise provided.' In reality, of course, the body of common law knowledge continues to exist, though in the somewhat altered form of a source of guidance in the exercise of delegated powers."[95]

Analyzing the language in Rule 702,[96] the Court found that the general acceptance criterion was not a prerequisite to the admissibility of scientific evidence.[97] Merrell Dow argued to the Court that the FRE were intended to incorporate the general acceptance standard.[98] The Court completely rejected Merrell Dow's theory. Using drafting history as authority, the Court noted that there was no mention of either *Frye* or the general acceptance standard in the FRE.[99] Moreover, the Court found that the general acceptance standard was at odds with the liberal thrust of the FRE and their relaxation of the traditional barriers to opinion testimony.[100] The Court concluded this portion of its opinion by declaring that the "austere [general acceptance] standard, absent from and incompatible with the Federal Rules of Evidence, should not be applied in federal trials."[101]

In focusing on Rule 702, the Court found there were three inherent requirements embodied in the FRE and, in addition, there were procedural grounds that could be used to limit expert testimony.[102] First, the Court reasoned that evidence admitted under Rule 702 must be "scientific."[103] Accord-

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91. Bourjailly v. United States, 483 U.S. 171, 177 (1987), and United States v. Abel, 469 U.S. 45, 51-52 (1984).

92. *Bourjailly*, 483 U.S. at 107.

93. *Abel*, 469 U.S. at 52 (common law bias rule is consistent with the FRE's general requirement of admissibility).

94. *Id.* (quoting from Cleary, *Preliminary Notes on Reading the Rules of Evidence*, 57 NEB. L. REV. 908, 915 (1978)).

95. *Daubert v. Merrell Dow Pharmaceuticals*, 113 S. Ct. at 2794.

96. FED. R. EVID. 702; *see supra* text accompanying note 68.

97. *Daubert*, 113 S. Ct. at 2794.

98. Respondent's brief, *supra* note 2, at 11.

99. *Daubert*, 113 S. Ct. at 2794.

100. *Id.*

101. Daubert argued that the rule of Erie R.R. Co. v. Tompkins, 304 U.S. 64 (1938) (the *Erie* rule holds that there is no federal general common law; when there is no federal rule that speaks to the issue, prevailing state law will apply) would be violated if the *Frye* test was applied to a federal diversity case; *see* Petitioner's brief *supra* note 1, at 41. The Court refused to address this issue, as it decided that the FRE apply, making the argument moot. *Id.* at 2794 n.6.

102. *Daubert*, 113 S. Ct. at 2795-98.

103. *Id.* at 2795.

ing to the Court, this implies a certain amount of evidentiary reliability.[104] Next, the Court concluded that Rule 702's "assist the trier of fact" requirement[105] meant there must also be "fit."[106] As defined by the Court, "fit" requires that the expert testimony be sufficiently tied to the facts so as to assist the jury in resolving a dispute.[107] Daubert's argument to the Court quoted the advisory committee's note[108] which conceded that it was impossible, without some type of specialized knowledge, to intelligently evaluate some facts.[109] The Court accepted Daubert's argument and adopted the "fit" test to assure that evidence would be carefully scrutinized before being admitted. Finally, the Court found that Rule 702's helpfulness standard limited evidence by requiring that, as a precondition to admissibility, the party who proposed it for admittance be able to show that the evidence had a valid scientific connection to the pertinent inquiry.[110]

After establishing the inherent limits on the FRE, the Court discussed the procedural safeguards available for use by judges after evidentiary rulings have been held.[111] The Court suggested that federal judges may rely on summary judgments[112] or directed judgments[113] if admitted evidence was inconclusive or irrelevant. According to the Court, these conventional devices were more appropriate than the wholesale exclusion of evidence under the general acceptance standard.[114]

Finally, recognizing that the actual application of the FRE may be more difficult in practice than in theory, the Court proposed some "general observations"[115] to assist federal courts in evaluating scientific evidence for admissibility using the relevancy approach of the FRE. The Court

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104. The majority suggested that "scientific" represented a process substantiated by the "scientific method," and the scientific method provided the evidentiary reliability standard. In note 9, the majority discussed the difference between validity and reliability. It concluded that in a case involving scientific evidence, evidentiary reliability will be based upon scientific validity. The dissent pointed out that the majority's logic implied that the FRE have a requirement that scientific evidence be relevant and reliable just because the evidence is couched in the scientific method. *Id.* at 2795. The dissent believed there was no such reference to reliability in the FRE, and consequently that the majority's argument was questionable. *Id.* at 2800 (Rehnquist, J., and Stevens, J., dissenting).

105. *See supra* text accompanying note 68.

106. "Fit" was coined by Judge Becker in United States v. Downing, 753 F.2d 1224, 1242 (3d Cir. 1985).

107. *Id.*

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

109. Petitioner's brief, *supra* note 1, at 28.

110. *Daubert*, 113 S. Ct. at 2796. This requirement is similar to the "fit" requirement.

111. *Id.* at 2794.

112. FED. R. CIV. P. 56.

113. FED. R. CIV. P. 50(a).

114. *Daubert*, 113 S. Ct. at 2798.

115. The Court clearly stated that these observations are not meant to be a definitive list or test. *Id.* at 2796-97.

suggested four factors which may be potentially helpful to a court: 1) falsifiability, or refutability, or testability of the evidence;[116] 2) the amount and type of peer review the evidence received; 3) the rate of error of the particular technique; and 4) general acceptance of the evidence within its specific scientific community.[117] A few sources of authority and a brief description of each factor were all that were offered in the way of explanation for the first three factors.[118] However, the Court felt compelled to offer more explanation for the general acceptance factor.[119]

Basing its argument on the FRE (specifically Rule 702), the Court decided that "widespread acceptance can be an important factor in ruling particular evidence admissible."[120] Moreover, according to the Court, Rule 702's broad theme was scientific validity. Thus, evidentiary reliability, relevance, and general acceptance can help a judge evaluate both acceptance and scientific validity.[121] The Court qualified this statement by noting that a trial judge must not focus on the conclusions generated by evidence or testimony, but rather on the principles and methodology upon which the evidence is based.[122]

ANALYSIS

The results of the *Daubert* decision on the federal court system are twofold: federal judges will find themselves bearing a greater responsibility for evaluating scientific evidence for admissibility, and more scientific evidence will be admitted into federal courtrooms than ever before. At first, the *Daubert* decision may cause skepticism. How can federal judges be expected to understand the highly complex and technical evidence frequently presented to them for admission?[123]

The Supreme Court suggested that judges could use either summary judgments or directed judgments to assist them in handling scientific evidence. But other procedural tools, such as court appointed expert witnesses and masters, are also available for use by judges during eviden-

116. The scientific method is based on a system of hypothesis generation and testing. Testability is a measure of how well a theory withstands empirical testing. Carl G. Hempel, *Philosophy of Natural Science* 49 (1966).

117. *Daubert*, 113 S. Ct. at 2796-97.

118. *Id.*

119. *Id.*

120. *Id.* at 2797.

121. *Id.*

122. *Id.*

123. *See generally* Linda Greenhouse, *Justices Put Judges in Charge of Deciding Reliability of Scientific Testimony*, N.Y. TIMES, June 29, 1993, at A10.

tiary hearings. For states applying rules worded the same as the Federal Rules of Evidence, such as Wyoming, the *Daubert* decision clarified the admissibility standard for scientific evidence and the role of evidentiary rules in courtrooms. Unfortunately for both federal and state courts, the Supreme Court may have left a skeleton in the closet by allowing general acceptance to remain an element of the admissibility analysis for scientific evidence.

The Impact of Daubert on Federal Courts

The *Frye* test, or "general acceptance," has resulted in highly selective and inconsistent applications.[124] Moreover, the applicability of the test has been criticized as "vague," "undefinable," "not enlightening," and both under and over inclusive.[125] Conversely, the FRE were designed to depend upon lawyer-adversaries and sensible triers of fact to evaluate conflicting issues in the courtroom.[126] By adopting the FRE as the standard, the Supreme Court is promoting standardization among the federal courts which will produce a simpler, more uniform, and more focused evidentiary analysis of scientific evidence.

The *Daubert* Court referred to federal judges as "gatekeepers."[127] The Court was aware that by adopting the relevancy standard, federal judges would have greater responsibility in evaluating the admissibility of evidence.[128] The Court reminded federal judges, however, that advisory committee's notes[129] and legislative history[130] were available for reference when applying the FRE. Federal judges also benefit from a substantial amount of federal case law which interprets the FRE.[131] These are important interpretive tools, but the Court's mention of the Federal Rules of Civil Procedure (FRCP)[132] suggests that while the admissibility of scientific evidence is more liberal, there are still limitations to prevent abuse. The procedural possibilities available to judges are potentially powerful, if used strategically. The FRE

124. For instance, determining exactly what constitutes scientific evidence has been a serious problem. It has also been suggested that courts apply the *Frye* test as a way of justifying their own views on a particular type of evidence. Giannelli, *supra* note 41, at 1219-21.

125. *Id.* at 1223. *See supra* text accompanying note 52.

126. Jack B. Weinstein, *Rule 702 of the Federal Rules of Evidence is Sound; It Should Not Be Amended*, 138 F.R.D. 631 (1991).

127. *Daubert*, 113 S. Ct. at 2799.

128. *Id.* at 2796.

129. *Id.* at 2795 n.9. For a complete summary of rules and advisory committee's notes *see* 3 DAVID W. LOUISELL & CHRISTOPHER B. MUELLER, FEDERAL EVIDENCE, §§ 380-383 (1979 & Supp. 1993).

130. *Daubert*, 113 S. Ct. at 2794.

131. *Id.*

132. *Daubert*, 113 S. Ct. at 2798.

and the FRCP, combined, provide a comprehensive procedural network whereby judges can critically and uniformly examine evidence to determine its admissibility.[133]

Federal Rules of Civil Procedure

The FRCP suggest possible answers to many criticisms leveled at the relevancy approach to admissibility of scientific evidence.[134] Fruitless litigation can be reduced if attorneys and judges utilize the FRCP before a suit reaches the trial stage. As the *Daubert* Court mentioned, summary judgment and directed judgments are always available to judges upon appropriate motion.[135] These are powerful tools and can be used after each party has had a chance to present its evidence. If a court determines that the nature or quality of the scientific evidence presented is such as to render it inadmissible, or insufficient as a matter of law to support a party's position, the matter need not be submitted to a jury.[136]

To prevent meaningless litigation and promote settlement, parties can participate in the liberal discovery allowed under the FRCP.[137] One of the purposes of the FRCP's basic discovery provisions[138] is to allow the parties to

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133. This text frequently refers to judges, as the *Daubert* opinion focused on them, but the federal procedures discussed below are equally valuable to attorneys trying cases in federal courts. *Daubert*, 113 S. Ct. at 2796.

134. *See* Giannelli, *supra* note 41, at 1237 (scientific evidence may mislead the jury), and Respondent's brief, *supra* note 2, at 17 (lay factfinders may not be able to sort through and adequately evaluate expert's data).

135. *Daubert*, 113 S. Ct. at 2798. *See supra* text accompanying notes 112-13.

136. Where the case has already been submitted to the jury, federal judges have the discretion under FED. R. CIV. P. 59 to order a new trial upon motion, or upon the court's own initiative. Also, a judgment as a matter of law in actions tried by jury is available upon proper motion under FED. R. CIV. P. 50.

137. JACK H. FRIEDENTHAL ET.AL., CIVIL PROCEDURE §§ 7.2 -7.6 (1985).

138. FED. R. CIV. P. 26-37. The *Daubert* decision mentioned several Federal Rules of Civil Procedure available to prevent abuse of the liberal admissibility standards under the FRE. *Daubert*, 113 S. Ct. at 2798. A few more have been mentioned here, but this is by no means an exhaustive summary of all the procedural rules available to litigants or judges during and after evidentiary rulings.

Recently, several changes to Rule 702 have been proposed. One version, which incorporates parts of FRCP 26 directly into the text in civil actions, reads:

> Testimony providing scientific, technical, or other specialized information in the form of an opinion or otherwise, may be received if (1) it is reasonably reliable and will, if credited, substantially assist the trier of fact to understand the evidence or to determine a fact in issue, and (2) the witness is qualified as an expert with respect thereto by knowledge, skill, experience, training, or education. Except with leave of court for good cause shown, the witness shall not testify on direct examination in any civil action to any opinion or inference, or reason or basis therefore, that has not been disclosed as required by Rules 26(a)(2)(B) and 26(e)(1) of the Federal Rules of Civil Procedure.

determine what testimony and other evidence is available to the opposing party.[139] Using discovery rules, each side in a suit has access to the underlying principles and content of scientific evidence to be presented by the opposing party. Once each side is sufficiently aware of the opposing side's evidence, the parties can negotiate as prescribed under FRCP 16.[140] At pre-trial conferences judges will be able to review, before a suit reaches the courtroom, the evidence to be offered by both parties. If either side objects to a proposed piece of evidence, the court can make reasoned decisions, based on the standards provided by *Daubert* and the FRE, to exclude inadmissible evidence. If and when the case makes it to trial, the federal adversarial system is well equipped to handle scientific evidence by rigorous cross-examination and other trial techniques.[141]

Additionally, judges hearing cases which involve complex and technical evidence may refer evidentiary rulings to masters[142] or court-appointed expert witnesses.[143] Masters and court-appointed expert witnesses can assist the court in determining the relevancy, helpfulness, and qualifications of the evidence and of the parties' expert witnesses, before the scientific evidence is presented at trial. Such references may prove to be invaluable to the court system by streamlining the evidentiary hearing process. Court appointed expert witnesses have been used frequently in the federal system with success,[144] while masters have generally been used only in exceptional cases.[145] A more ambitious use

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Weinstein, *supra* note 126, at 638 (quoting Committee on Rules of Practice and Procedure of the Judicial Conference of the United States, *Preliminary Draft of Proposed Amendments to the Federal Rules of Civil Procedure and the Federal Rules of Evidence* (1991)). *See supra* text accompanying note 68 for current text of Rule 702. The advisory committee's notes following proposed rule 702 state that, according to FRCP 26, the court is authorized and expected in civil cases to impose, in advance of trial, appropriate restrictions on the use of expert testimony. *Id.* at 639.

139. FRIEDENTHAL, *supra* note 137, § 7.2 at 382.

140. FED. R. CIV. P. 16 provides for pretrial conferences, scheduling, and management. The pertinent objectives include establishing early and continuing control, and improving the quality of the trial through more thorough preparation. FED. R. CIV. P. 16(a)(2),(4).

141. Giannelli, *supra* note 41, at 1239.

142. The FRCP allows federal judges to appoint a special master to suits "upon showing that some exceptional condition requires it." FED. R. CIV. P. 53(b); *see also* 9 CHARLES ALAN WRIGHT & ARTHUR R. MILLER, FEDERAL PRACTICE AND PROCEDURE § 2605, at 790 (1971 & Supp. 1993) (masters as supervisors of discovery may be appropriate and useful in unusual cases).

143. FED. R. EVID. Rule 706 allows federal judges to appoint their own experts to testify at trial and, to a limited extent, assist judges in pre-trial activities. Expert witnesses are used more frequently by courts than masters, thus more has been written about them. Consequently, they are only mentioned here. *See* STRONG, *supra* note 40, § 8 at 11-2; LOUISELL, *supra* note 129, § 404 at 726.

144. LOUISELL, *supra* note 129, § 405 at 732.

145. Generally, masters have been used in massive toxic substance litigation or other complex cases. *See* In re "Agent Orange" Product Liability Litigation, (D.C.N.Y. 1982), 94 F.R.D. 173, and Geoffrey C. Hazard & Paul R. Rice, *Judicial Management of the Pretrial Process in Massive Litigation: Special Masters as Case Managers*, 1982 AM. B. FOUND. RES. J. 375.

of masters may improve efficiency and promote economy in the federal courts.[146]

Most authorities agree that the use of masters should be limited to complex and technical cases.[147] However, complex and technical cases are becoming the norm, rather than the exception. Therefore, the use of masters during the pre-trial activities of such cases is appropriate.[148] Judges can reduce the time-consuming effort of sorting through large volumes of data to determine its probative value and relevancy by using masters during pre-trial hearings.[149] Moreover, this method of evidence screening may help promote impartiality, uniformity and predictability.[150] In addition, parties pursuing suits with large volumes of technical evidence will depend on the technical expertise of masters to fairly evaluate their evidence.[151] If either party is dissatisfied, judicial review is always available.[152]

The Skeleton in the Closet

The Supreme Court's general observations are the most disturbing aspect of an otherwise focused decision. The Court claimed the general observa-

146. Wayne D. Brazil, *Special Masters in Complex Cases: Extending the Judiciary or Reshaping Adjudication?* 53 U. CHI. L. REV. 394 (1986) (special masters are particularly useful for complex cases, such as mass tort actions involving asbestos, Agent Orange, or DDT, massive commercial litigation, and public law cases, requiring courts to fashion and carry out equitable decrees covering complex relationships and extending over considerable periods of time. Potential problems with their use include the role of the judge becoming less definite, and imprecise rulings resulting from the informality of master hearings); *see also* Edward V. Di Lello, *Fighting Fire with Firefighters: A Proposal for Expert Judges at the Trial Level*, 93 COLUM. L. REV. 473 (1993) (advocating a more aggressive use of masters and proposing use of a magistrate judge whose function would be to adjudicate technical cases); *but see* Note, *Article III Limits on Article I Courts: The Constitutionality of the Bankruptcy Court and the 1979 Magistrate Act*, 80 COLUM. L. REV. 560 (1980) (arguing that Congressional grants of power under the Magistrate Act may be unconstitutional).

147. WRIGHT, *supra* note 142, §§ 2603-04 (discussing the uses and powers of masters in the federal courts. Judges should use masters in complex cases only, but their powers are broad); *see also*, Brazil, *supra* note 146; *but see*, La Buy v. Howes Leather Co., 77 S. Ct. 309 (1957) (the use of masters in non-jury cases is to be the exception rather than the rule. The language in FRCP 53 requiring "exceptional condition" means more than just a clogged calendar).

148. WRIGHT, *supra* note 142, §§ 2603-05 (masters as supervisors of discovery appropriate and useful in unusual cases); *see also* Irving R. Kaufman, *Masters in the Federal Courts: Rule 53*, 58 COLUM. L. REV. 452, 465 (1958) (use of masters in complex cases for pre-trial discovery is potentially advantageous); Brazil, *supra* note 146 (masters are particularly useful in complex cases).

149. Kaufman, *supra* note 148, at 467 (master's daily supervision resulted in expeditious discovery, pretrial proceedings, and money savings for litigants).

150. *Id.* at 460-61.

151. *Id.*

152. In non-jury trials where a master is assigned, the trial judge has the discretion to set aside the master's report if the conclusion is incorrect or erroneous. FED. R. CIV. P. 53(e)(2). In jury trials the master's report is admissible as evidence and can be read to the jury, subject to any objections. FED. R. CIV. P. 53(e)(3).

tions were not exhaustive.[153] However, since seven Justices subscribed to them, they have precedential significance. The observations will affect the implementation of the relevancy test by federal courts due to the weight courts will place on them.[154]

The first three observations discussed by the Court (peer review, testability, and error rate) are all factors that are readily defined and consequently not susceptible to great variation. The fourth factor suggested by the Court is essentially the general acceptance standard.[155] Consequently, the same criticisms directed at the *Frye* test apply here.[156] By suggesting that federal judges use general acceptance as a factor to determine the relevancy of evidence, the Court is permitting the *Frye* criterion to remain a salient part of judicial evaluation. Judges who have grown used to applying this standard may continue to accord it dispositive significance, thus letting *Frye* back in, and potentially overwhelming the relevancy standard or the other elements of the *Daubert* analysis.

Impact of Daubert on Bendectin Plaintiffs

The practical impact of the *Daubert* decision on Jason Daubert and other Bendectin plaintiffs is straightforward. On remand, the federal district court will have to evaluate Daubert's data under the relevancy standard. The court must examine how relevant the evidence is, and whether it will assist the trier of fact in making a decision.[157] As discussed earlier, Daubert presented evidence from eight expert witnesses, all with superior qualifications.[158] The evidence consisted of complete, technical studies, all of which were prepared within the limits of genuine science.[159] If, on remand, the trial court holds this evidence to be admissible under the *Daubert* approach,[160] then Daubert will fail to receive a favorable judgment[161] only if the weight of the evidence or the

153. *Daubert*, 113 S. Ct. at 2796-98.

154. Timothy B. Dyk & Gregory A. Castanias, *Daubert Doesn't End Debate On Experts*, 15 NAT'L L. J., Aug. 2, 1993, at 17.

155. *Daubert*, 113 S. Ct. at 2797.

156. Giannelli, *supra* note 41, at 1208-32. *See supra* text accompanying note 52.

157. *See supra* text accompanying notes 55 and 68.

158. *See supra* text accompanying note 8.

159. *See supra* text accompanying notes 11-13, 16, 29 and 32. The circuit court of appeals' decision to apply a stricter standard of review to Daubert's evidence simply because it was generated solely for the use in litigation is clearly erroneous under the relevancy standard. The court's standard of review appears harsh, even under a general acceptance standard, as most evidence is prepared by litigants specifically for trial.

160. As mentioned, *supra* note 16, Bendectin plaintiffs have frequently met with failure because their evidence is unacceptable to the medical establishment. The trial court must decide whether to reapply the general acceptance standard, and expose the skeleton in the closet, or whether to evaluate Daubert's evidence based wholly on the FRE relevancy standard.

161. Considering the controversy Daubert's evidence caused at the first trial, reconsideration on

credibility of the witnesses (or both) fail to convince the trier of fact that he had the more persuasive position.

Impact of Daubert on Wyoming

Wyoming officially adopted the Wyoming Rules of Evidence (WRE) on August 26, 1977.[162] The Wyoming Supreme Court in *McCabe v. R.A. Manning Construction*[163] held that the framers of the Rules of Evidence intended to considerably relax the common law prohibition against receipt of opinion testimony by both expert and lay witnesses. As a final emphasis, the court stated that "[g]enerally, the rules should be liberally construed to allow the admission of such evidence."[164] The pertinent WRE[165] are the same as the FRE and establish a relevancy standard of admissibility identical to the FRE's relevancy standard.[166]

Wyoming has had the opportunity to interpret WRE 702 frequently since they became effective in 1978. In *Buhrle v. State*[167] the Wyoming Supreme Court, quoting directly from *Dyas v. United States*,[168] established a three part test to determine the admissibility of expert testimony in Wyoming courts.[169] *Buhrle* concerned the admissibility of an expert's testimony on Battered Woman Syndrome.[170] At the time of trial, use of the Battered Woman Syndrome defense was in its infancy. Thus the court,

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remand would be a good opportunity for the trial judge to refer the matter to a special master for determination of what should be considered relevant evidence. The potential defects in the data, such as its lack of peer review and the statistical problems, will be considered by the master, who will subsequently recommend to the court which relevant documents to admit into evidence. The reasons for either admitting, or not admitting, particular evidence will be thoroughly documented in the master's report. If either party is dissatisfied, the court can readily and efficiently review the master's report for reversible error.

162. ORDER OF THE WYOMING SUPREME COURT, Aug. 26, 1977. The WRE became effective on Jan. 1, 1978.

163. 674 P.2d 699 (Wyo. 1983).

164. *Id.* at 705.

165. WYO. R. EVID. 402, 403 and 702; *see supra* text accompanying notes 56, 70, and 68, respectively.

166. Margaret E. Plumb & Mary Kay Lundwall, Comment, *Wyoming Rules of Evidence 701-706: Opinions and Expert Testimony*, 13 LAND & WATER L. REV. 975, 975 (1978).

167. 627 P.2d 1374 (Wyo. 1981).

168. 376 A.2d 827, 832 (D.C. 1977).

169. The *Buhrle* test requires that: 1) the subject matter must be so distinctively related to some science, profession or occupation as to be beyond the understanding of the average laymen, 2) the witness must have some skill or knowledge in the field as to make it appear that the opinion or testimony offered will aid the trier of fact, and 3) expert testimony is inadmissible if the scientific knowledge does not permit a reasonable opinion to be asserted by the expert. *Buhrle*, 627 P.2d at 1376.

170. The expert witness was the self-described foremost expert on the subject of the Battered Woman Syndrome. *Id.*

while not ruling out admissibility altogether, decided that the legitimacy of the evidence had not been adequately demonstrated to the court. Consequently, the court concluded that due to the inadequate foundation, the proposed opinions would not aid the jury.[171]

Buhrle was the Wyoming Supreme Court's attempt to clarify the criteria set forth by WRE 702, particularly the Rule 702 requirement that evidence assist the trier of fact. However, some have interpreted the *Buhrle* decision as an approach which incorporates the *Frye* standard into the WRE.[172]

More recently, the Wyoming Supreme Court has decided four important cases concerning the admissibility of scientific and technical evidence under WRE 702. In each case, the court evaluated evidence for admissibility using the relevancy standard. In the first case, *Rivera v. State*,[173] the Wyoming Supreme Court considered the admissibility of DNA profiling.[174] The court held that this type of statistical evidence is admissible in criminal cases if the expert's opinion does not "embrace the witness' conclusion as to guilt or innocence."[175] The court placed a caveat on its holding to clarify that expert witnesses are only allowed to offer opinions, but are not allowed to infringe upon the fact-finding function of the jury.[176]

Frenzel v. State[177] called the *Buhrle* decision into doubt by disregarding the *Buhrle* test. In *Frenzel*, the plaintiff sought to admit expert testimony on Child Sexual Abuse Accommodation Syndrome evidence.[178] After carefully considering the credibility and usefulness of the evidence to the jury, the supreme court ruled the evidence admissible, but only when used to explain a victim's inconsistent behavior. The evidence would not be admissible, according to the court, if used as the foundation for an expert's opinion whether abuse has occurred.[179]

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171. *Id.* at 1378.

172. *See* Edward W. Harris, Note, *Evidence- Expert Testimony-Admissibility of Expert Testimony: Wyoming Takes a Moderate Approach*, 19 LAND & WATER L. REV. 707 (1984). The *Buhrle* court did not cite *Frye* in its opinion.

173. 840 P.2d 933 (Wyo. 1992).

174. DNA material is used by experts to prepare a human "profile." The DNA material is analyzed statistically and then compared to known DNA profiles to determine the race of an individual. *Id.* at 941-43.

175. *Id.* at 941.

176. *Id.*

177. 849 P.2d 741 (Wyo. 1993).

178. *Id.* at 744.

179. The court based this decision on the value of Child Abuse Syndrome testimony as established by other jurisdictions, yet the court was still unconvinced that the evidence was completely valid. *Id.* at 749.

In its Frenzel analysis, the supreme court mentioned the three criteria set forth in *Buhrle*,[180] but opted not to apply them. Had the court strictly applied the *Buhrle* test, however, the child sexual abuse evidence probably would have been ruled inadmissible due to its limited purpose.[181] The evidence did not permit the expert to assert a reasonable opinion and, consequently, would not have been useful to the jury.[182]

The third recent case decided by the Wyoming Supreme Court concerning the admissibility of scientific evidence was *Anderson v. Louisiana-Pacific*.[183] The evidence at issue in *Anderson* was the testimony of a human factors expert.[184] The Wyoming Supreme Court affirmed the lower court's ruling that the evidence was inadmissible. The supreme court's opinion stated that the WRE do not "provide for blanket admissibility of expert testimony"[185] and that the trial court is vested with discretion to rule unhelpful evidence inadmissible. The court refused to create a bright line test for categorizing types of expert testimony, because the decision to reject expert testimony is fact specific.[186] *Anderson* affirmed the court's support for trial judges' discretionary power to limit scientific evidence in the courtroom.

The most recent Wyoming Supreme Court case directly addressing the admissibility of scientific evidence was *Springfield v. State*.[187] As in *Rivera*, *Springfield* involved how DNA testing, and the requisite statistical analysis of the DNA data, was to be used and whether the proposed use of the data was prejudicial to the defendant. The supreme court concluded that the jury must hear the evidence, even if the evidence was complicated and confusing.[188] As a result, the court held that the evidence was admissible. Protecting the jury's function was important to the court. Applying WRE 702, the court found that "[s]tatistical evidence does not remove the

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180. *Id.* at 747. *See supra* text accompanying note 169 for a complete description of the *Buhrle* test.

181. *Frenzel*, 849 P.2d at 747.

182. Essentially, the evidence would have failed the third prong of the *Buhrle* test, which requires that evidence allow the expert to assert a reasonable opinion (*see supra* text accompanying note 169). The evidence proposed in Frenzel was allowed *so long as* the expert did *not* assert an opinion regarding whether or not abuse had occurred. *Id.* at 749. Therefore, the expert could not have asserted, based only on the child sexual abuse evidence, that the abuse occurred.

183. No. 92-164 (Wyo. Aug. 9, 1993).

184. Human factors, also known as ergonomics, is the study of "integrated systems of people, material, equipment and energy . . . together with the principles and methods of engineering analysis and design to specify, predict and evaluate the results obtained from such systems." HANDBOOK OF HUMAN FACTORS 5 (Gavriel Salvendy, ed., 1987).

185. *Anderson*, No. 92-164, at 3.

186. *Id.* at 4.

187. No. 92-162 (Wyo. Sept. 21, 1993).

188. *Id.* at 11.

issue of identity from the jury, which is free to disregard or disbelieve expert testimony."[189] The supreme court's decision to allow the expert to offer an opinion based on statistics is a recession from *Rivera*, where expert testimony was not allowed to infringe on the jury's fact-finding function. The Wyoming Supreme Court cited *Daubert* as authority for the *Springfield* decision.[190]

Having cited *Daubert* as recently as three months after it was decided,[191] Wyoming is presumably concerned that its interpretation of the WRE is reasonably consistent with the federal interpretation of the FRE.[192] This is a logical course of action for Wyoming and other states that have adopted the FRE, because uniformity among the federal courts and state courts applying identically worded rules promotes fairness and predictability. In addition, federal courts applying state law in diversity cases will not run the risk of benefitting some parties by applying the more liberal FRE evidentiary rules. Forum shopping by parties hoping to gain advantage in federal courts may thus be reduced if evidentiary standards are uniform.

CONCLUSION

Everyone would agree that "junk science" is a problem, especially when it clogs federal courtrooms and takes up judicial time. Justice Blackmun, in the *Daubert* opinion, stated that "there are important differences between the quest for truth in the courtroom and the quest for truth in the laboratory."[193] The federal justice system is the forum parties use to arbitrate disputes; it is not a sterile laboratory. The *Daubert* decision allows plaintiffs to bring their suit to the courtroom and try to persuade a court that their position is right, using whatever relevant data is available. If they fail it will be because their evidence was insufficient to persuade the court, not because their evidence was new or innovative. For reasons

189. *Id.* at 18 (quoting State v. Brown, 470 N.W. 2d 30, 33 (Iowa 1991)). In a specially concurring opinion, Justice Thomas agreed with the result in the case, but declined to agree with the majority's decision to modify *Rivera*. Concerned with the precedent this case would set, Justice Thomas was inclined to maintain the *Rivera* caveat and not allow statistical analysis to be admitted in criminal trials. He reasoned that such evidence amounts to an opinion of guilt by the expert, which is unfairly prejudicial to the defendant. *Id.* at 1-2 (Thomas, J., concurring specially).

190. *Id.* at 10. The Wyoming Supreme Court relied on the first three general observations recommended in the United States Supreme Court's opinion. The Wyoming Supreme Court's decision not to use the fourth observation (i.e., the general acceptance standard) is conspicuous.

191. *Id.*

192. While not officially bound by the U.S. Supreme Court's ruling in the *Daubert* decision, the *Springfield* decision suggests that the Wyoming Supreme Court follows federal interpretation closely.

193. *Daubert*, 113 S. Ct. at 2798.

already stated, such as uniformity, predictability and fairness, Wyoming has chosen to follow the federal court system's lead and adopt the same admissibility policies.

The *Daubert* decision may result in large companies, such as Merrell Dow, having to defend themselves from many more lawsuits. In addition, the already overtaxed court system may have to deal with even more lawsuits. But the policy reasons in favor of the *Daubert* decision are powerful. The American judicial system favors an open courtroom standard. As a result of the *Daubert* decision, courts are now open to anyone who can establish relevancy. The new standard does not imply unlimited access to the federal courts, however. Adequate procedural limits exist and will prevent wholesale abuse of the relevancy standard for admissibility. As for the skeleton in the closet, only time and experience will tell how dangerous it really is.

VERONICA I. LARVIE