KUMHO TIRE COMPANY: THE EXPANSION OF THE COURT'S ROLE IN SCREENING EVERY ASPECT OF EVERY EXPERT'S TESTIMONY AT EVERY STAGE OF THE PROCEEDINGS

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INTRODUCTION

The allocation of power between judge and jury has changed dramatically in recent years as a consequence of the Supreme Court's entry into the battle over the admissibility of expert testimony. Until recently, the balance of power rested with the jury who, in most cases, was vested with weighing the credibility of competing expert testimony. Foundational questions to expert testimony did arise, but with the exception of opinions resting upon truly novel theories or methodologies, which were excluded under the "generally accepted" Frye standard, most courts were inclined to admit most expert testimony. The rationale for the broad admission of expert testimony was the assumption that the jury could ferret out unreliable expert testimony, which has been subjected to a vigorous cross-examination, the presentation of contrary expert testimony, and an effective closing argument.

In 1993, the United States Supreme Court in Daubert v. Merrell Dow Pharmaceuticals, Inc. sent shock waves through the legal profession by announcing that the courts had been misinterpreting the key evidentiary provision governing the admissibility of expert testimony, Rule 702 of the Federal Rules of Evidence. According to the Court, Frye's common-law "generally accepted in the scientific community" standard had not survived the codification of the Federal Rules of Evidence. Instead, Rule 702 dramatically expanded the trial court's "gate keeping" responsibility over scientific evidence. Contrary to the preceding two decades of experience applying Frye under the Federal Rules of Evidence, the Court held that, under Rule 702 of the Federal Rules of Evidence, the trial judge, as the "gate keeper" of scientific evidence, "must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable."³

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As guidelines for the courts' administering this enhanced screening role over scientific evidence, the Court offered several "general observations" which have become known as the Daubert tests for the relevance and reliability of scientific evidence. These tests examine whether the theory or methodology: (1) has been tested; (2) has been the subject of peer-reviewed analysis or publication; (3) has an established rate of error; and (4) is generally accepted within the relevant scientific community.4

Armed with the Daubert standard, courts began exercising this newly-announced "gate-keeping" responsibility over scientific evidence. Of course, the effect of their Daubert ruling often was the displacement of the jury. Concerned with a trial court in a Daubert hearing displacing the jury, the United States Court of Appeals for the Eleventh Circuit in Joiner v. General Electric Company5 applied a "particularly stringent standard of review to the trial judge's exclusion of expert testimony."6 On review, the United States Supreme Court in General Electric Company v. Joiner7 held that notwithstanding the potentially outcome-determinative nature of a court's Daubert ruling, a court's Daubert determination should be subject to an abuse of discretion standard; whether the decision is to admit or exclude the expert testimony.8

Following Joiner, if a trial court's outcome-determinative decision to exclude expert testimony is premised upon a "scientific" foundation and subject to an abuse of discretion standard, the question remained whether the trial court's broad discretion extended to nonscientific expert testimony? Did engineers, physicians, bee-keepers and all other experts, whether qualified by education, training, or experience, all have to run through the Daubert gauntlet before they could be heard by the jury? If so, the "gate keeping" responsibility of the court, backed by an abuse of discretion standard of review, would loom large as an evidentiary barrier for many cases. This unanswered question—raising the reality of a potentially dramatic shift of power between judge and jury—is the question addressed by the Supreme Court in Kumho Tire Co. v. Carmichael.9

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5. 78 F.3d 524 (11th Cir. 1996).
I. KUMHO TIRE CO. V. CARMICHAEL

A. LOWER COURT HISTORY

1. District Court Decision

   In *Carmichael v. Samyang Tires, Inc.*, a products liability case arising out of a blown automobile tire, Chief Judge Charles Butler, pursuant to a *Daubert* hearing, granted defendants' motion to exclude the testimony of plaintiff's engineering expert and motion for summary judgment. The underlying facts involved a single-vehicle crash of a minivan that occurred when the driver lost control after the right rear tire of the van failed. Plaintiff had purchased the used minivan "as is" with 88,997 miles on it. The right rear tire that failed was a Hercules Superior XII Steel Belted Radial tire that was designed and manufactured by Kumho & Company and produced in South Korea. Although the tire failed two months and 7,011 miles after plaintiff's purchase of the used minivan, the actual service history of the tire was unknown. What was known was that the original tire depth of 10/32" to 11/32" had been reduced to between 0/32" and 3/32", and that a previous tire puncture had not been adequately repaired. The issue in the case was whether the tire had blown as a consequence of tire abuse or as a consequence of a manufacturing or design defect.

   To support a manufacturing or design defect, the plaintiffs offered the testimony of one expert witness, Dennis Carlson. In support of Carlson's qualifications to testify regarding tire design and manufacturing defects, plaintiffs offered evidence that Carlson had a master degree in mechanical engineering. He also had ten years of experience with Michelin America in the field of tire design. Additionally, he was employed by George R. Edwards and Associates as a tire consultant and had previously testified as a tire consultant in another case on tire design defect.

   Based upon his education, experience, and training, the plaintiffs offered Carlson's expert opinion testimony "that the tire failed because of poor or insufficient adhesion between the rubber, steel, and nylon components of the tire." According to Carlson's deposition testimony, the insufficient adhesion "caused the tire components to separate from each other, resulting in the flapping of the tread and the sudden, catastrophic loss of air pressure in the tire."
The critical issue in the case was whether the loss of adhesion that caused the tire to fail was the consequence of tire defect or tire abuse. Carlson admitted that, in theory, the loss of adhesion he believed caused the blowout could have been the consequence of either tire defect or tire abuse. However, he suggested that the only relevant form of abuse at issue would have been "overdeflection, which may occur when a tire is underinflated, overloaded, or both."14 The controversial part of Carlson’s testimony involved the manner in which he ruled out abuse by overdeflection in support of his opinion that the tire blew because of a tire defect.

According to Carlson, in considering whether a tire had been abused by overdeflection, an expert would expect to see four signs indicative of overdeflection: "(1) greater tread wear on the shoulder than in the center of the tire; (2) sidewall deterioration or discoloration; (3) abnormal bead grooving on the tire; and (4) rim flange impressions."15 According to Carlson’s expert testimony, insufficient evidence of at least two of these factors "rules out overdeflection as a cause of the tire failure and, barring other evidence of abuse, [supports the conclusion] that the loss of adhesion was prompted by a manufacturing or design defect."16

In applying these overdeflection tests to the tire at issue and finding insufficient evidence to support a finding of overdeflection, Carlson relied heavily upon the opinion of plaintiff’s original expert, George Edwards, Carlson’s employer who became too ill to testify in the case. Edwards had examined the tire at issue and found insufficient evidence to indicate overdeflection. Rather than doing his own tests, Carlson formed an opinion that the tire at issue was defective merely by adopting Edwards’ findings.17 While Carlson visually inspected the tire for the first time an hour before his deposition, he had much earlier formed his opinion regarding the tire defect. Although he discovered some of the signs and testified that these were indicative of overdeflection,18 he concluded that the evidence with respect to each factor was insufficient to demonstrate overdeflection despite the fact that he performed no tests on the tire.19 Once he determined that

14. Id. Carlson testified that "[o]verdeflection causes the tread of a tire to become too hot, causing deterioration in the sidewall, cords, and rim of the tire." Id. at 1519 n.5 (citations omitted).
16. Id. (citing Carlson Deposition at 278-79).
17. Id. at 1519 n.6.
18. Id. at 1519. In his deposition, Carlson admitted he observed signs of (1) uneven tread wear, (2) sidewall deterioration, (3) abnormal bead grooving, and (4) rim flange impressions. Id. (citing Carlson Deposition at 403-06, 445-46, 449-56).
there existed a “paucity of evidence of overdeflection or other abuse,” he concluded that the tire must have failed because of a defect, despite the absence of “any affirmative evidence of a defect in the tire.”

The defendants moved for a summary judgment based upon the unreliability of Carlson’s expert testimony under the Daubert standard. In fulfilling his “gatekeeping” responsibility, the trial judge applied the four Daubert factors for assessing the admissibility of expert testimony:

(1) whether the technique or theory used may be tested or refuted; (2) whether the technique or theory has been a subject of peer review or publication; (3) the known or potential rate of error of a technique; and (4) the degree of acceptance of a theory or technique within the relevant scientific community.

Chief Judge Butler found foundational testimony lacking on each Daubert factor. First, Carlson admitted that much of his analysis was “subjective” and that he knew of no tests which could be used to test the results of his visual inspection of the tire. Second, Carlson conceded that no publications discussed his tire analysis technique. Third, Carlson admitted that his testimony depended upon his experience at assessing tires and that his accuracy rate in distinguishing between overdeflected and defective tire separation had never been tested to determine a potential rate of error. Finally, the only evidence relevant to the issue of whether his tire analysis methodology is generally accepted in the relevant scientific community was his own testimony that other experts have followed similar methodology for distinguishing between abused tires and defective tires.

Responding to the absence of the four Daubert factors for determining the admissibility of scientific evidence, the plaintiff argued that Carlson’s testimony was “technical analysis,” rather than scientific evidence and, therefore, exempted from the Daubert factors. However, Chief Judge Butler observed to the contrary, stating that

20. Id.
21. Id.
22. Id. at 1520. The defendants also moved for summary judgment because of the absence of any affirmative proof of a tire defect. However, the court rejected this ground for summary judgment, perceiving “no inherent flaw in a process-of-elimination form of proof per se, as long as the underlying methodology is scientifically valid.” Id. at 1520 n.7.
24. Id. at 1520 (citing Carlson Deposition at 276-84, 295-96, 302, 387-88).
25. Id. at 1521, n.10 (citing Carlson Deposition at 303).
26. Id. (citing Deposition at 281-84, 311, 474-75).
27. Id. at 1521, n.11 (citing Carlson Deposition at 303).
28. Id. at 1521.
federal courts have routinely applied *Daubert* to cases involving "technical" as well as those solely concerned with "scientific" analyses.29

Chief Judge Butler concluded that because Carlson's testimony failed to satisfy the foundational steps outlined in *Daubert*, "Carlson's testimony is simply too unreliable, too speculative, and too attenuated to the scientific knowledge on which it is based to be of material assistance to the trier of fact."30 Consequently, Chief Judge Butler excluded Carlson's testimony and granted defendants' motion for summary judgment.31

Upon plaintiff's motion for reconsideration, wherein the plaintiff argued that the *Daubert* factors were too inflexible to be useful in cases involving technical analysis, the court conceded that *Daubert*'s factors were illustrative only. However, the court ruled that even without applying the *Daubert* factors, Carlson's "visual inspection method" lacked sufficient foundation of reliability.32 The court, therefore, affirmed its earlier ruling excluding Carlson's expert testimony and granting defendants' motion for summary judgment.33

**The United States Court of Appeals for the Eleventh Circuit Decision**

In *Carmichael v. Samyang Tire, Inc.*,34 the United States Court of Appeals for the Eleventh Circuit reversed and remanded the district court's decision, holding that the *Daubert* gatekeeping factors relied upon by Chief Judge Butler to exclude Carlson's expert testimony did not apply to his nonscientific expert testimony.35 Writing for the three-judge panel, Circuit Judge Stanley Birch explained that *Daubert* is limited to providing "a method for evaluating the reliability of witnesses who claim scientific expertise."36 Only if the expert witness relies upon scientific analysis may the trial court exercise gatekeeping responsibility in excluding expert testimony by applying the *Daubert* factors or their equivalence. In effect, Circuit Judge Birch was arguing that, with nonscientific evidence, juries are capable of assessing the reliability of expert testimony.

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29. *Id.* at 1522 (citations omitted).
30. *Id.*
31. *Id.* at 1524.
34. 131 F.3d 1433 (11th Cir. 1997).
36. *Carmichael*, 131 F.3d at 1435 (quoting United States v. Sinclair, 74 F.3d 753, 757 (7th Cir. 1996)).
In distinguishing between scientific and nonscientific expert testimony, the court explained that "a scientific expert is an expert who relies on the application of scientific principles, rather than on skill- or experience-based observation, for the basis of his opinion." Circuit Judge Birch used an illustration from a Sixth Circuit decision to explain that a scientifically qualified aeronautical engineer might be required if the issue was explaining how a bumblebee is able to fly, but that the experienced-based observations of an unschooled beekeeper would provide a sufficient basis for testimony that bumblebees always take off into the wind.

According to the Eleventh Circuit, the distinction between scientific and nonscientific expert testimony is important because Daubert's gatekeeping role for evaluating scientific evidence "is not intended to serve as a replacement for the adversary system: 'Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.'"

Applied to the facts of the case, Circuit Judge Birch opined that Carlson's testimony regarding the tire defect was more like the experience-based beekeeper—"which we would usually expect a district court to allow a jury to evaluate"—than the testimony of a scientific-based aeronautical engineer, whose testimony should reasonably be subject to the more rigorous Daubert tests: Like a beekeeper who claims to have learned through years of observation that his charges always take flight into the wind, Carlson maintains that his experiences in analyzing tires have taught him what "bead grooves" and "sidewall deterioration" indicate as to the cause of a tire's failure.

Because the district court erred in applying the more rigorous Daubert factors to exclude Carlson's nonscientific testimony, the Eleventh Circuit reversed. The court remanded the case for further review because the trial court still had a duty under Rule 702 to "determine if Carlson's testimony is sufficiently reliable and relevant to assist a jury." However, in assessing this issue the court made it clear that a more lenient standard for admissibility—one that relies more on the traditional checks of the adversarial system than the technical Daubert factors—should be applied.

37. *Id.* (citing Daubert, 509 U.S. at 590).
38. *Id.* (citing Berry v. City of Detroit, 25 F.3d 1342, 1349-50 (6th Cir. 1994)).
39. *Id.* (citations omitted).
40. *Id.* at 1436.
41. *Id.*
42. *Id.* (citing United States v. 14.38 Acres of Land, 80 F.3d 1074, 1078).
THE SUPREME COURT DECISION


A. HOLDING

The United States Supreme Court, in *Kumho Tire Company, Ltd. v. Carmichael*, 43 accepted certiorari to answer "in light of uncertainty among the lower courts about whether, or how, Daubert applies to expert testimony that might be characterized as based not upon 'scientific' knowledge, but rather upon 'technical' or 'other specialized' knowledge." 44 Accordingly, the Court in *Kumho* specifically addressed the narrow issue of "whether a trial judge determining the 'admissibility of an engineering expert's testimony' may consider" the *Daubert* factors. 45 The Court answered this question unanimously and succinctly: "Emphasizing the word 'may' in the question, we answer that question yes." 46 In addition, the Court addressed many of the broader evidentiary issues surrounding expert testimony that have perplexed courts at every level.

Writing for a unanimous Court on the issue of whether the gatekeeping responsibilities of the trial court on issues of expert testimony extend to nonscientific as well as scientific expert testimony, Justice Breyer reversed the court of appeals. The Court held that the district court properly interpreted *Daubert's* holding that "the Federal Rules of Evidence 'assign to the trial judge the task of ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand.'" 47 More specifically, the Court concluded that "*Daubert's* general holding—setting forth the trial judge's general 'gatekeeping' obligation—applies not only to testimony based on 'scientific' knowledge, but also to testimony based on 'technical' and 'other specialized' knowledge." 48 In exercising this gatekeeping responsibility, the court may consider any or all of the *Daubert* factors if they will help in determining reliability. However, the Court, emphasizing the "broad latitude" the district court enjoys when deciding reliability, explained that "the test of reliability is 'flexible,' and *Daubert's* list of

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43. 119 S. Ct. 1167 (1999).
45. *Kumho Tire Co., Ltd.*, 119 S. Ct. at 1175.
46. Id.
47. Id. at 1171 (quoting *Daubert*, 509 U.S. at 597).
48. Id.
specific factors neither necessarily nor exclusively applies to all experts or in every case.”

B. RATIONALE

The Court outlined several justifications underlying its holding, which extended the Daubert gatekeeping responsibility of the judge over expert testimony to scientific and nonscientific alike. First, the language of Rule 702 “makes no relevant distinction between ‘scientific’ knowledge and ‘technical’ or ‘other specialized’ knowledge.” The Court observed that “[i]n Daubert, the Court specified that it is the Rule’s word ‘knowledge,’ not the words (like ‘scientific’) that modify that word, that ‘establishes a standard of evidentiary reliability.’” While the Court “in Daubert referred only to ‘scientific’ knowledge,” the Court explained that was because the testimony facing the Court in Daubert was expert testimony.

Second, the Court explained that “[n]either is the evidentiary rationale that underlay the Court’s basic Daubert ‘gatekeeping’ determination limited to ‘scientific’ knowledge.” According to the Court, “Federal Rules 702 and 703 grant expert witnesses testimonial latitude unavailable to other witnesses on the ‘assumption that the expert’s opinion will have a reliable basis in the knowledge and experience of his discipline.’”

Third, “it would prove difficult, if not impossible, for judges to administer evidentiary rules under which a gatekeeping obligation depended upon a distinction between ‘scientific’ knowledge and ‘technical’ or ‘other specialized’ knowledge.” The Court observed that scientists often depend upon observation, and nonscientific ex-

49. Id. The Court summarized the four Daubert factors as follows:
—Whether a “theory or technique . . . can be (and has been) tested;”
—Whether it “has been subjected to peer review and publication;”
—Whether, in respect to a particular technique, there is a high “known or potential rate of error” and whether there are “standards controlling the technique’s operation;” and
—Whether the theory or technique enjoys “general acceptance” within a “relevant scientific community.”

Id. at 1175.

50. Kumho Tire Co., Ltd., 119 S. Ct. at 1174 (quoting 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”).

51. Id. (quoting Daubert, 509 U.S. at 589-90).
52. Id. (citing Daubert, 509 U.S. at 590 n.8).
53. Id.
54. Id. (quoting Daubert, 509 U.S. at 592).
55. Id.
erts, such as engineers, often rely upon scientific principles.56 An evidentiary model that attempted to distinguish between the forms of knowledge would, therefore, obscure more than enlighten. According to the Court, "[e]xperts of all kinds tie observations to conclusions through the use of what Judge Learned Hand called 'general truths derived from . . . specialized experience.'"57

Based upon these justifications, the Court held that "Daubert's general principles apply to the expert matters described in Rule 702."58 Applying Rule 702 to all expert testimony, whenever the "testimony's factual basis, data, principles, methods, or their application are called sufficiently into question . . . the trial judge must determine whether the testimony has a 'reliable basis in the knowledge and experience of [the relevant] discipline.'"59 In determining the reliability of expert testimony, the Court reemphasized that the Daubert factors "do not constitute a 'definitive checklist or test,""60 and that the "gatekeeping inquiry must be "tied to the facts' of a particular 'case.'"61 The Court summarized the intended flexibility of the court's gatekeeping responsibility as follows:

[W]e can neither rule out, nor rule in, for all cases and for all time the applicability of the factors mentioned in Daubert, nor can we now do so for subsets of cases categorized by category of expert or by kind of evidence. Too much depends upon the particular circumstances of the particular case at issue.62

C. Application

Rather than merely holding that the Daubert factors may apply to nonscientific testimony and remanding,63 the Court applied Joiner's "abuse-of-discretion" standard for reviewing "a trial court's decision to admit or exclude expert testimony"64 to the facts of the case. The Court observed that the district court had not doubted Carlson's expert qualifications as a mechanical engineer with ten years experience

56. Id.
57. Id. (quoting Learned Hand, Historical and Practical Considerations Regarding Expert Testimony, 15 Harv. L. Rev. 40, 54 (1901)).
58. Id. at 1175.
59. Id. (quoting Daubert, 509 U.S. at 592).
60. Id. (quoting Daubert, 509 U.S. at 593).
61. Id. (quoting Daubert, 509 U.S. at 591; United States v. Downing, 753 F.2d 1224, 1242 (3d Cir. 1985)).
62. Id.
63. Id. at 1179. Justice Stevens, concurring with the Court's application of the Daubert factors to nonscientific testimony, wrote a separate opinion dissenting in part over the Court's decision to decide "whether the trial judge abused his discretion when he excluded the testimony of Dennis Carlson." Id. (Stevens, J., concurring in part, dissenting in part).
with Michelin and separate experience as a tire failure consultant who had previously testified in other tort cases. Rather, the district court had found unreliable "the methodology employed by the expert in analyzing the data obtained in the visual inspection, and the scientific basis, if any, for such an analysis." Specifically, the court, applying a Daubert analysis, found insufficient foundation to establish the reliability of Carlson's methodology, whereby he determined by visual and tactile observation that the tire that blew out failed as a consequence of a tire defect rather than tire abuse.

According to the trial court, Carlson's methodology for distinguishing between "abuse" and "defect" was unreliable for two reasons. First, Carlson's basic theory—that in the absence of evidence of at least two of his four signs of tire abuse it reasonably may be assumed that a tire that separates does so as consequence of a tire defect—was unreliable. Second, the court also found unreliable the subjectiveness of Carlson's ability, through visual and tactical observations, to determine that a tire failed as a result of abuse, despite the fact that the tire concededly "had traveled far enough so that some of the tread had been worn bald; it should have been taken out of service; it had been repaired (inadequately) for punctures; and it bore some of the very marks that the expert said indicated, not a defect, but abuse through overdeflection."

D. Conclusion

The Court concluded that the trial judge had not abused his discretion in finding that Carlson's methodology satisfied "none" of the Daubert factors, which was helpful in determining the unreliability of the methodology. The Court suggested that the trial court's "initial opinion might have been vulnerable" to the criticism of relying "too rigidly" on the view that "a failure to satisfy any one of those criteria automatically renders expert testimony inadmissible." However, upon reconsideration, the trial court acknowledged that "Daubert was
intended neither to be exhaustive nor to apply to every case."\footnote{Id. (quoting Carmichael v. Samyang Tires, Inc., Civ. Action No. 93-0860-CB-S (S.D. Ala., June 5, 1996), App. to Pet. for Cert. 4c, \emph{rev'd}, 131 F.3d 1433 (11th Cir. 1997), \emph{rev'd sub nom.}, Kumho Tire Co., Ltd. v. Carmichael, 524 U.S. 936 (1998)).} The court, therefore, had not abused its discretion in excluding Carlson’s testimony “upon Carlson’s failure to satisfy either \emph{Daubert's factors or any other} set of reasonable reliability criteria.”\footnote{Id. (Scalia, J., concurring).}

2. \textit{Justice Scalia's Concurring Opinion, in Which O'Connor and Thomas, J.J. Joined}

In a brief concurring opinion, Justice Scalia, joined by Justices O'Connor and Thomas, stated that the trial court’s “discretion in choosing the manner of testing expert reliability—is not discretion to abandon the gatekeeping function” nor “discretion to perform the function inadequately.”\footnote{Id. (Scalia, J., concurring).} According to Justice Scalia, while “the \emph{Daubert} factors are not holy writ, in a particular case the failure to apply one or another of them may be unreasonable, and hence an abuse of discretion.”\footnote{Id. (Scalia, J., concurring).} Stated differently, while the \emph{Daubert} factors are not the sole test of the admissibility of expert testimony, a reliability analysis that does not at least consider the applicability of the four \emph{Daubert} factors would run the risk of reversal for an abuse of discretion.

3. \textit{Justice Stevens' Opinion, Concurring in Part and Dissenting in Part}

Justice Stevens concurred on the issue of whether a trial judge, in making a Rule 702 analysis of the admissibility of nonscientific expert testimony, may consider the four \emph{Daubert} factors, but dissented on the “different question whether the trial judge abused his discretion when he excluded the testimony of Dennis Carlson.”\footnote{Id. (Stevens, J., concurring in part and dissenting in part).} Noting that the Court granted certiorari solely on the issue of whether a trial court may exclude nonscientific evidence on the basis of the four \emph{Daubert} factors, Justice Stevens dissented to what he considered a “well-reasoned factual analysis in Part III of the Court's opinion” because he “firmly believe[d] that it is neither fair to litigants nor good practice for this Court to reach out to decide questions not raised by the certiorari petition.”\footnote{Id. at 1179-80 (Stevens, J., concurring in part and dissenting in part).}
III. KUMHO AS A CONTINUATION OF THE DAUBERT/JOINER TREND TO ENHANCE JUDICIAL OVER JURY DISCRETION IN THE AREA OF EXPERT TESTIMONY

*Kumho* clearly follows the Supreme Court's recent trend to expand judicial over jury discretion in the weighing of the relevancy and reliability of expert testimony. The seeds for raising the bar of admissibility even while expressing an intent to liberalize the admissibility of expert testimony were sown in *Daubert* itself. Identifying the "liberal thrust" of the Federal Rules of Evidence, the Court noted that Rule 702 took a "general approach of relaxing the traditional barriers to 'opinion' testimony." In keeping with this intent to relax the admissibility standards for expert evidence, the Court in *Daubert* relegated *Frye*’s "generally accepted" standard to the status of a mere factor that courts may take into consideration when deciding the admissibility of expert testimony. Justice Blackmun rejected the common "apprehension that abandonment of 'general acceptance' as the exclusive requirement for admission will result in a 'free-for-all' in which befuddled juries are confounded by absurd and irrational pseudoscientific assertions." In response, he suggested that this concern over the capability of the jury system is:

overly pessimistic about the capabilities of the jury and of the adversary system generally. Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence. . . . These conventional devices, rather than wholesale exclusion under a uncompromising "general acceptance" test, are the appropriate safeguards where the basis of scientific testimony meets the standards of Rule 702.

However, even while extolling the abilities of the jury to discern unreliable expert testimony, the Court reminded the courts of their "gatekeeper" responsibility:

That the *Frye* test was displaced by the Rules of Evidence does not mean, however, that the Rules themselves place no limits on the admissibility of purportedly scientific evidence. Nor is the trial judge disabled from screening such evidence. To the contrary, under the Rules the trial judge must ensure

79. Id. at 595.
80. Id. at 596 (citations omitted).
that any and all scientific testimony or evidence admitted is not only relevant, but reliable.\(^\text{81}\)

Following Daubert, the courts were faced with reconciling the seemingly contradictory "liberalization" impulse of Daubert with the screening qualifier. The Eleventh Circuit addressed the issue in Joiner v. General Electric Co.\(^\text{82}\) Joiner involved a trial court's exclusion of expert testimony that would have causally connected plaintiff's work exposure to polychlorinated biphenyls ("PCBs") to his development of small cell lung cancer. The exclusion of the expert testimony was "outcome determinative" in that it provided the basis for the court's granting of defendant's motion for summary judgment. On appeal, the Eleventh Circuit Court of Appeals suggested that the court's overzealous effort to screen scientific evidence conflicted with Daubert's purpose of liberalizing the admissibility of expert testimony "[b]ecause the Federal Rules of Evidence governing expert testimony display a preference for admissibility, [and] we apply a particularly stringent standard of review to the trial judge's exclusion of expert testimony."\(^\text{83}\)

Reversing and remanding, the United States Supreme Court in General Electric Co. v. Joiner\(^\text{84}\) held that "[i]n applying an overly 'stringent' review to the trial court's ruling, the Eleventh Circuit [Court of Appeals] failed to give the trial court the deference that is the hallmark of abuse-of-discretion review."\(^\text{85}\) Identifying an abuse of discretion standard as the appropriate standard of review, the Court made it clear that appellate courts "may not categorically distinguish between rulings allowing expert testimony and rulings which disallow it."\(^\text{86}\)

The consequence of Joiner has been the effective elevation of the screening impulse of Daubert over the effort to liberalize the admissibility of scientific evidence. Justice Blackmun's confidence in the jury, as expressed in Daubert, has been trumped by the courts' concomitant responsibility as a "gate keeper." Kumho, of course, continues the Daubert/Joiner trend of expanding judicial over jury discretion in the area of all expert testimony. By extending the Daubert standard to all expert testimony, the courts may effectively take any case which depends upon expert testimony away from the jury. Indeed, the

\(^{81}\) Id. at 589 (emphasis added).

\(^{82}\) 78 F.3d 524 (11th Cir. 1996).


\(^{84}\) 522 U.S. 136 (1997).


Daubert /Joiner /Kumho screening at every stage of the proceeding for every aspect of expert testimony has made the Daubert hurdle a significant obstacle to getting a case decided by the jury.

Punctuating the authority of the courts to keep the juries from deciding cases based upon unreliable expert testimony, the United States Supreme Court more recently in Weisgram v. Marley Co.\textsuperscript{87} upheld an appellate court's authority to direct a judgment as a matter of law against the jury verdict winner. Weisgram involved a wrongful death action filed when Bonnie Weisgram died from carbon monoxide poisoning caused by a fire in her home. The trial court admitted the expert testimony of three of plaintiff's witnesses who testified, over defendant's Daubert objection, that a defect in a heater manufactured by the defendant caused both the fire and Weisgram's death. In addition to objecting to plaintiff's expert testimony, the defendant at the close of Weisgram's evidence and again at the close of all the evidence unsuccessfully moved for a judgment as a matter of law.

On appeal, the United States Court of Appeal for the Eighth Circuit reversed, reasoning that the testimony of Weisgram's expert witnesses should have been excluded as speculative. Rather than exercising their discretionary authority to remand under Rule 50(d) of the Federal Rules of Civil Procedure for a new trial determination, the Eighth Circuit directed a judgment as a matter of law in defendant's favor.

On appeal to the United States Supreme Court, the plaintiff argued that, under Rule 50(d), an appellate court may not order the entry of judgment for the verdict loser when an appellate court has excluded evidence, but must remand to consider whether a new trial is necessary.\textsuperscript{88} Affirming on appeal, the United States Supreme Court held that following Daubert and Kumho, all parties have been put on notice of the "exacting standards of reliability" expert testimony must meet.

It is implausible to suggest, post-Daubert, that parties will initially present less than their best expert evidence in the expectation of a second chance should their first try fail. [We therefore find unconvincing] Weisgram's argument that allowing courts of appeal to direct the entry of judgment for defendants will punish plaintiffs who could have shored up their cases by other means had they known their expert testimony would be found inadmissible.\textsuperscript{89}

\textsuperscript{87} 120 S. Ct. 1011 (2000).
\textsuperscript{89} Weisgram, 120 S. Ct. at 1014.
Thus, Weisgram reaffirms the reallocation of power between court and jury that Daubert/Joiner/Kumho have previously established. Daubert's liberalizing impulse has been turned into "exact standards of reliability." A review of the federal cases decided since Kumho demonstrate that these exacting standards have been applied to every aspect of every type of expert at every stage of the proceedings.

IV. THE IMPORTANCE OF THE DAUBERT/JOINER/KUMHO AT EVERY STAGE OF THE JUDICIAL PROCEEDINGS

A. DAUBERT/JOINER/KUMHO AND PRETRIAL DISCOVERY

Given the importance of a Daubert ruling on expert testimony, pretrial discovery becomes critical. Under Federal Rules of Civil Procedure Rule 26(a)(2)(A), each party must "disclose to other parties the identity of any person who may be used at trial to present evidence under Rules 702, 703, or 705 of the Federal Rules of Evidence." Rule 26(a)(2)(B) further provides that any such disclosure shall:

be accompanied by a written report prepared and signed by the witness. The report shall contain a complete statement of all opinions to be expressed and the basis and reasons therefor; the data or other information considered by the witness forming the opinions; any exhibits to be used as a summary of or support for the opinions; the qualifications of the witness, including publications authored by the witness within the preceding ten years; the compensation to be paid for the study and testimony; and a listing of any other cases in which the witness has testified as an expert at trial or by deposition within the preceding four years.

Federal Rules of Criminal Procedure Rule 16(a)(1)(E) also requires:

at the defendant's request, the government shall disclose to the defendant a written summary of testimony the government intends to use under Rules 702, 703, or 705 of the Federal Rules of Evidence during its case in chief at trial. This summary must describe the witness' opinions, the bases and the reasons therefor, and the witness' qualifications.

If the defendant makes such a request, the defense under Federal Rule of Criminal Procedure Rule 16(b)(1)(C) must likewise:

disclose to the government a written summary of testimony the defendant intends to use under Rules 702, 703, or 705 of the Federal Rules of Evidence during its case in chief at trial. This summary must describe the witness' opinions, the bases and the reasons therefor, and the witness' qualifications.

If the parties choose to obtain additional discovery under the Federal Rules of Civil Procedure Rule 26(a)(5) by deposition, written in-
terrogatories or production of documents (or if comparable discovery is available under Federal Rules of Criminal Procedure Rules 15 and 16), then counsel should conduct discovery with the Daubert reliability tests in mind. Specifically, if an expert has formed an opinion relevant to the case, discovery questions should seek answers to the Daubert questions. For example, with respect to the theory relied upon by the expert in forming an opinion, counsel could ask the following Daubert inspired questions:

a. Whether any underlying theory supporting the expert opinion has been tested? If so identify each and every test that you relied upon in support of this theory.

b. If this theory has been tested, has the testing been subject to any peer-reviewed analysis? If so identify each and every peer-reviewed analysis of which you are aware.

c. If the theory has been subject to peer-reviewed analysis, whether any known rate of error has been established for assessing the reliability of the theory. If so identify each and every peer-reviewed analysis indicating that a known rate of error has been established for assessing the theory's reliability.

d. Whether the theory is a generally accepted theory in the relevant scientific or expert field. If your answer is yes, then identify the bases of your affirmative answer.

e. Identify any and all scientific literature relied upon by the expert in evaluating any of the above answers?

Similarly, with respect to the methodology, instrument or technique relied upon by the expert in forming the expert's opinion, counsel could ask:

a. Whether the reliability of the methodology, instrument, or technique for applying the theory supporting the expert's opinion has been tested? If so identify each and every test that you relied upon in support of this theory.

b. If the reliability of the methodology, instrument, or technique for applying the theory has been tested, has the testing been subject to any peer-reviewed analysis? If so identify each and every peer-reviewed analysis of which you are aware.

c. If the reliability of the methodology, instrument, or technique for applying the theory has been subject to peer-reviewed analysis, whether any known rate of error has been established for assessing the reliability of the methodology, instrument, or technique. If so identify each and every peer-reviewed analysis indicating that a known rate of error has been established for assessing the theory's reliability.
d. Whether the reliability of the methodology, instrument, or technique for applying the theory is generally accepted theory in the relevant scientific or expert field. If your answer is yes, then identify the bases of your affirmative answer.

e. Identify any and all scientific literature relied upon by the expert in evaluating any of the above answers?

Counsel answering any expert discovery request should similarly make disclosures with the Daubert questions in mind, both with respect to the experts' opinions and the basis for each opinion that will be the subject of the expert's testimony. Counsel should also supplement any disclosure in a reasonable time before trial where additional testimony becomes necessary (Federal Rules of Civil Procedure Rule 26(e) and Federal Rules of Criminal Procedure Rule 16(e)).

The consequences of failing to have Daubert in mind in responding to discovery can be illustrated by a few post-Kumho cases. For example, in Black v. Food Lion, Inc., the Fifth Circuit reversed and remanded because the expert's theory that fibromyalgia could be caused by a traumatic event such as the type of slip and fall which occurred in defendant's store "has not . . . been verified by testing and, thus, has not been peer-reviewed." In making such a ruling, the court observed that while the plaintiff's expert attempted to offer recent studies indicating some link between physical trauma and fibromyalgia, the trial court properly excluded the studies because during discovery they had not been shown to opposing counsel.

In another breach-of-discovery-obligation case, the United States Court of Appeals for the Tenth Circuit in United States v. Charley held that the government violated Rule 16(a)(1)(E) in not turning over all the summaries of the testimony of all its expert witnesses. The government refused to turn over the summaries of the physician witnesses in this sexual assault case, alleging that "each of its witnesses would be testifying as lay witnesses rather than as experts." In reality, the experts testified as experts and each gave expert opinions. Although the Tenth Circuit considered sanctioning the government in some way because of the inadequate discovery responses, the court declined only because the government had later turned over to the defense copies of all the medical and counseling records from which the witnesses later testified. Consequently, the court concluded that the

90. 171 F.3d 308 (5th Cir. 1999).
91. Black v. Food Lion, Inc., 171 F.3d 308, 313 (5th Cir. 1999).
92. Black, 171 F.3d at 313 n.3.
93. 189 F.3d 1251 (10th Cir. 1999).
94. United States v. Charley, 189 F.3d 1251, 1261 (10th Cir. 1999).
95. Charley, 189 F.3d at 1262.
defendant had suffered no prejudice as a result of the government's failure to comply with Rule 16.96

If upon completion of discovery, counsel determines that expert testimony may be excludable under Daubert/Joiner/Kumho review, several procedural alternatives are available for presenting the Daubert challenge. For the opponent of expert testimony, counsel should remember to object early and often.

B. DAUBERT/JOINER/KUMHO IN THE CONTEXT OF A PRETRIAL MOTION IN LIMINE OR MOTION TO EXCLUDE ACCOMPANIED BY A MOTION FOR SUMMARY JUDGMENT

The paradigmatic way to challenge expert testimony, as illustrated by the procedural context of Daubert, Joiner and Kumho, is by filing a pretrial motion in limine or motion to exclude testimony either prior to or accompanied by a dependent motion for summary judgment. If the opponent loses the pretrial motion to exclude and preserves the objection during the course of the trial, the issue can again be raised on appeal. Indeed, Weisgram makes it clear that the Daubert ruling may be revisited at every stage of the proceedings. Nevertheless, the most expedient place to begin challenging the admissibility of expert testimony is by filing a motion in limine or motion to exclude evidence.

Some courts have refused to hold a pretrial Rule 104(a) Daubert hearing if the motion to exclude is based upon the inadequacy of the expert's conclusions, rather than the theory or methodology relied upon in forming the conclusion. For example, the court in United States v. Nichols97 held that the trial court had not abused its discretion in refusing to hold a Daubert preliminary hearing to exclude evidence when the challenge went to the conclusions drawn from reliable theories and methodologies. The witness, a forensic explosives expert, was permitted to give an opinion on the type of bomb involved in the Oklahoma City bombing. The trial court refused to hold a Daubert hearing based upon a finding that the challenged evidence neither involved a novel scientific theory nor required use of an untested methodology. Because the defendant's challenges were to the conclusions drawn from the collection of the items tested and the manner in which the lab work was performed (rather than theory or methodology), the court had not abused its discretion in refusing to hold a Rule 104(a) preliminary hearing. The court held that questions regarding compliance with valid protocols were matters "involving the credibility of

96. Id.
97. 169 F.3d 1255 (10th Cir. 1999).
witnesses and weighing of the evidence, both of which were more suitable for resolution by the jury."

Similarly, the United States Court of Appeals for the Sixth Circuit in Greenwell v. Boatwright affirmed the trial court's refusal to hold a Daubert hearing before permitting the defendant's accident reconstructionist to testify. The plaintiff challenged the foundational adequacy of the defendant's accident reconstructionist's testimony because he relied solely on the physical evidence at the scene of the accident, rather than the conflicting eyewitness testimony of the event. Affirming on appeal, the Sixth Circuit held that the Daubert hearing was most appropriate when challenging the scientific theory or methodology underlying the expert's testimony, rather than the conclusions generated therefrom.

However, other courts have held Daubert hearings and granted summary judgment based solely upon lack of factual foundation supporting the expert's opinion. The responsibility of the proponent of expert testimony to provide adequate foundational support at the Daubert pretrial hearing can be illustrated by the United States Court of Appeals for the Eighth Circuit decision in Jaurequi v. Carter Manufacturing Co. In this products liability case, in which the plaintiff's legs had been amputated in an accident with a combine manufactured by John Deere, the plaintiff's expert proposed to give testimony that the combine had design and warning defects that were causally responsible for plaintiff's injuries. John Deere moved in pretrial motions both for the exclusion of the plaintiff's expert testimony and for summary judgment.

In support of defendant's motion for summary judgment, John Deere offered "its highly detailed and annotated statement of uncontested material facts." In opposition to the motion for summary judgment, plaintiff "did not provide countervailing citations to depositions or even a statement of contested facts. In particular, Jaurequi did not cite to any of his deposition testimony to refute any of Deere's factual assertions." Instead, plaintiffs relied exclusively on the summary testimony of plaintiff's experts, whose testimony was ultimately excluded as a consequence of the Daubert hearing.

99. 184 F.3d 492 (6th Cir. 1999).
100. Greenwell v. Boatwright, 184 F.3d 492, 497 (6th Cir. 1999) (citing Daubert, 509 U.S. at 594-95; United States v. Bonds, 12 F.3d 540, 556 (6th Cir. 1993)).
101. 173 F.3d 1076 (8th Cir. 1999).
103. Jaurequi, 173 F.3d at 1085.
On appeal to the United States Court of Appeals for the Eighth Circuit, plaintiff argued in an appellate brief that “Deere grossly misstated the evidence and consequently every single finding of the district court used to support its decision was contrary to the record.” 104 The plaintiff in the appellate brief then alleged the “true facts.” 105 The Eighth Circuit responded: “The effort comes too late. It should have been done in response to Deere’s motion before the district court.” 106

Similarly, the United States Court of Appeals for the Seventh Circuit in Clark v. Takata Corp. 107 upheld the trial court’s motion to strike expert testimony based upon the inadequacy of the factual support and, consequently, also granted the defendant’s motion for summary judgment. Plaintiff’s expert had a Ph.D. in mechanical engineering, was a Professor-Director Emeritus at a graduate center for biomedical engineering, and also worked as a consultant in the field of biomechanics and mechanical engineering. Despite his impressive credentials, plaintiff failed to establish, at the Daubert hearing, any factual support for either of the expert’s opinions that the defendant’s lap belt unreasonably failed in a roll-over collision and that the lap belt’s failure was a proximate cause of the plaintiff’s injuries. Affirming on appeal the exclusion of the expert’s opinion and the defendant’s motion for summary judgment, the Seventh Circuit explained that:

the trial court was well within its discretion to rule out [plaintiff’s expert] opinion, which was connected to existing data only by ipse dixit, or bare assertion, of the expert . . . . Where the pro-offered expert offers nothing more than a “bottom line” conclusion, he does not assist the trier of fact. 108

The lesson of Jaurequi and Clark is clear. Counsel must make every effort to provide adequate factual support for expert testimony whenever challenged in a Daubert hearing. This is especially true because even if the trial court overrules a motion to exclude expert testimony, the court on appeal may reverse that decision. For example, the United States Court of Appeals for the Fifth Circuit in Tanner v. Westbrook, 109 a medical malpractice case, held that the court should have granted defendant’s pretrial motion to exclude a physician’s unsupported opinion that the child’s cerebral palsy was caused by birth asphyxia. During the pretrial hearing, the defense offered an expert’s

104. Id. (citations omitted).
105. Id. (citations omitted).
106. Id.
107. 192 F.3d 750 (7th Cir. 1999).
109. 174 F.3d 542 (5th Cir. 1999).
affidavit and scientific literature suggesting that cerebral palsy is rarely caused by birth asphyxia. The plaintiffs countered with excerpts from their experts’ depositions, supporting expert affidavits, and supporting literature challenging, but not eliminating, the likelihood of a congenital defect as the cause of the cerebral palsy in this case. On appeal, the Fifth Circuit held that plaintiff’s expert “did not have the kind of specialized knowledge required to testify regarding causation, nor did he rely upon medical literature directly addressing the issue in this case. This deficiency rendered his expert testimony as to a critical issue in the case—causation—unreliable.”

If even the factual support for an expert’s opinion can be challenged in a Daubert hearing, contrary to Daubert’s dicta, then obviously the hearing may be used for purposes announced in Daubert—the testing of the reliability of an expert’s underlying theory or methodology. For example, the United States Court of Appeals for the Eighth Circuit in United States v. Iron Cloud111 reversed and remanded a jury conviction for involuntary manslaughter because the court had both refused defendant’s request for a Daubert hearing and had improperly admitted a portable breath test (“PBT”), over defendant’s objection, as evidence of the defendant’s intoxication. The Eighth Circuit explained that “[b]y denying Iron Cloud’s request for a Daubert hearing on the reliability of PBT, the judge took the accuracy of the PBTs for granted and he ignored established procedure.”112 Contrary to the court’s assertion of general acceptance of PBT, the Eighth Circuit pointed out that because of the inherent unreliability of PBT, no court has permitted the government to admit PBT results for any purpose other than to prove probable cause for arrest.113 Consequently, not only had the trial court erred in not permitting the defense to challenge the expert testimony in a Rule 104(a) Daubert pretrial hearing, the court compounded the error by admitting the evidence during the trial over defendant’s Rule 702 objection.

Similarly, the court in United States v. Wyk114 granted defendant’s motion in limine to the extent it addressed the unreliability of the prosecutor’s technique for determining authorship of handwriting. Although the court permitted the expert in handwriting analysis to explain to the jury the points of comparison between the known writings of the defendant and questioned documents, the court excluded the expert’s opinion testimony that the defendant was the author of the threatening writings. The court explained that the methodology

110. Tanner v. Westbrook, 174 F.3d 542, 548 (5th Cir. 1999).
111. 171 F.3d 587 (8th Cir. 1999).
113. Iron Cloud, 171 F.3d at 590 (citations omitted).
or technique of forensic stylistics’ analysis failed the Daubert tests for assessing reliability and, therefore, the expert’s opinion depending thereon was inadmissible.115

C. **DAUBERT/JOINER/KUMHO** IN THE CONTEXT OF A MOTION FOR SUMMARY JUDGMENT UNACCOMPANIED BY A RULE 104(A) MOTION IN LIMINE OR MOTION TO EXCLUDE

A motion for summary judgment, unaccompanied by a pretrial Daubert evidentiary hearing, provides a less ideal procedure for considering the admissibility of expert testimony. The courts since Kumho have disagreed on the propriety of a court permitting counsel to use the motion for summary judgment unaccompanied by a Rule 104(a) motion to exclude expert testimony.

For example, the United States Court of Appeals for the Third Circuit in *Padillas v. Stork-Gamco, Inc.*116 reversed and remanded the district court’s decision to exclude an expert report and grant a motion for summary judgment without giving the proponent of the expert testimony an opportunity to establish foundational support for the expert opinion in a Daubert hearing. The action involved a products liability claim arising out of an injury suffered by Daniel Padillas while washing down a machine designed to separate chicken drumsticks from the thigh. The defendant moved for a summary judgment. Rather than moving in response to defendant’s motion for summary judgment for a Daubert hearing to review the admissibility of the testimony of plaintiff’s expert, the plaintiff tendered a report by a mechanical engineer in opposition to defendant’s motion for summary judgment. The plaintiff’s expert concluded in his report that defendant’s failure to provide a guard on the cutting machine “resulted in a defective machine with a dangerous and hazardous condition that was the cause of the accident.”117 The trial court excluded the report and granted defendant’s motion for summary judgment. Suggesting that the rigors of Daubert applied to technical expert evidence (anticipating Kumho), the court excluded the report because the expert offered no basis for the conclusion and observations reached in the report.

Reversing on appeal, the United States Court of Appeals for the Third Circuit stated that “[o]ur concern is with the process by which the court arrived at its ruling. . . . We have long stressed the importance of in limine hearings under Rule 104(a) in making the reliability

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116. 186 F.3d 412 (3d Cir. 1999).

determination required under Rule 702 and Daubert." The court explained that if the trial court was concerned with the factual basis of the expert’s report “it should have held an in limine hearing to assess the admissibility of the [report],” giving plaintiff an opportunity to respond to the court’s concerns.” The court concluded that “[g]iven the complex factual inquiry required by Daubert, courts will be hard-pressed in all but the most clear-cut cases to gauge the reliability of expert proof on a truncated record.” Even though the plaintiff failed to request a Rule 104 Daubert hearing, the court held that the district court had abused its discretion in ruling on the admissibility of proffered expert testimony in the summary judgment context without the benefit of such a hearing.

The unfairness of a Daubert challenge in the context of a motion for summary judgment unaccompanied by a Daubert hearing can also be illustrated by the trial court’s opinion in Friedman v. Cunard Line Ltd. In Friedman, the trial judge refused to consider a “gatekeeping” challenge to the competency of a physical education, recreation, and sports safety expert, when the objections were raised for the first time in a reply brief on a motion for summary judgment. The court explained that:

[t]he proper vehicle for testing the admissibility of an expert’s opinion is a motion in limine to preclude the testimony. Such a motion requires the district court to perform its “gatekeeper” function under Daubert v. Merrill Dow Pharmaceuticals, Inc. ... and determine whether or not Rule 702 ... would allow the opinion evidence [that the recreational facilities of a cruise ship created a dangerous environment] to be adduced at trial.

D. Daubert/Joiner/Kumho in the Trial Context

Although a Daubert hearing normally should occur pursuant to a pretrial motion in limine, trial judges may also conduct a Daubert hearing during the course of a trial. For example, the United States Court of Appeals for the Fifth Circuit in Curtis v. M&S Petroleum, Inc. considered on appeal in this toxic tort case whether the trial court had properly excluded expert testimony proffered during a

118. Padillas, 186 F.3d at 417.
119. Id. at 418 (quoting Petruzzi’s IGA Supermarkets, Inc. v. Darling-Delaware Co., 998 F.2d 1224, 1240 (3d Cir. 1993)).
120. Id. at 418 (quoting Cortes-Irizarry v. Corporación Insular De Seguros, 111 F.3d 184, 188 (1st Cir. 1997)).
123. 174 F.3d 661 (5th Cir. 1999).
Daubert hearing conducted outside the presence of the jury during the course of the trial. During the Daubert hearing, the plaintiffs prof-fered expert testimony of an industrial hygienist who testified that, in his expert opinion, the health problems of the plaintiff refinery workers were caused by their exposure to an excessive amount of benzene during their employment at defendant's refinery. The trial court excluded the expert's causation testimony, holding that his methodology did not satisfy the reliability rigors of Daubert because he could not establish the precise level of benzene to which the workers had been exposed.\textsuperscript{124}

On appeal, the Fifth Circuit held that the trial judge had abused his discretion in excluding the expert's opinion under Daubert. Without criticizing the court's holding of the Daubert hearing during the course of the trial, the Fifth Circuit explained that the expert's testimony which provided that: (1) the symptoms experienced by the workers were consistent with overexposure to benzene; (2) tests performed by the workers indicating excessive exposure to benzene; (3) the work practices at the refinery created high risks for exposure; (4) the refinery had not been designed to handle toxic torts such as benzene; and (5) the medical literature relied upon by the expert established a connection between exposure to high levels of benzene and the types of symptoms experienced by plaintiffs, all established ample foundational bases for the expert's causation opinion.\textsuperscript{125} As a result, the court's exclusion of the testimony based upon the expert's inability to establish the exact levels of benzene exposure constituted an abuse of discretion. Accordingly, the Fifth Circuit reversed and remanded the trial court's granting of defendant's motion for judgment as a matter of law.\textsuperscript{126}

While a Daubert hearing outside the presence of the jury would be an appropriate procedure for considering the admissibility of expert testimony; if the case is being tried to the court, the court may be more likely to hear the evidence during the course of the trial before deciding whether to exclude it under Daubert and Kumho. For example, the court in Smith v. Rasmussen\textsuperscript{127} permitted defendant's expert, a general psychiatrist, to testify in this bench trial subject to defendant's motion to exclude the expert testimony. After hearing expert testimony that sex reassignment surgery was "controversial" or "experimental" rather than "medically necessary," the court granted plaintiff's motion to exclude the expert's testimony on competency

\textsuperscript{125} Curtis, 174 F.3d at 669-72.
\textsuperscript{126} Id. at 676-77.
\textsuperscript{127} 57 F. Supp. 2d 736 (N.D. Iowa 1999).
grounds and granted a judgment as a matter of law in favor of the
plaintiff. Although competent to testify regarding the general prin-
ciples of psychiatry, the court held that the expert lacked the appro-
priate knowledge and experience in the pertinent inquiry at issue, "the
diagnosis and treatment of gender identity disorder." 128

E. DAUBERT/JOINER/KUMHO IN THE CONTEXT OF POST JURY
VERDICT MOTIONS

Although a trial court would normally resolve a Daubert chal-
lenge either in response to pretrial motions or during the course of
challenges raised during the trial, the court may make a Daubert rul-
ing even after an adverse jury verdict. For example, in Comer v.
American Electric Power, 129 a products liability case, a homeowner
who suffered property damage in a house fire sued an electric utility,
alleging that a "voltage surge" caused by a defective connection on the
transformer that serviced the house caused the fire in plaintiff's home.
The plaintiff, in support of his claim, offered the expert testimony of
an electrical engineer who testified on the issue of causation. On
cross-examination, the defendant challenged the factual foundation
for the expert's opinion and unsuccessfully moved for the exclusion of
the expert's testimony. At the close of plaintiff's case, the defendant
moved under Rule 50(a)(1) of the Federal Rules of Civil Procedure for
a judgment as a matter of law, renewing his argument that the ex-
pert's testimony should be excluded based upon the inadequacy of the
factual support for his opinion. The court took the motion under ad-
visement. At the close of all the evidence, the defendant renewed the
motion for judgment as a matter of law under Rule 50(a)(2) of the Fed-
eral Rules of Civil Procedure. Again the court took the motion under
advisement and submitted the case to the jury.

After the jury returned a verdict in favor of plaintiff, the court
directed the parties to brief the issues raised by defendant's motion,
especially the Daubert issue. The first issue the court addressed was
the standard of review. The court acknowledged that, ordinarily, in
reviewing a motion for judgment as a matter of law following a jury
verdict under Rule 50 of the Federal Rules of Civil Procedure, the evi-
dence is viewed "in the light most favorable to the nonmoving
party." 130 However, the court reasoned that the standard of review
with respect to the admissibility of expert testimony is abuse of discre-

129. 63 F. Supp. 2d 927 (N.D. Ind. 1999).
ing Deimer v. Cincinnati Sub-Zero Prods., Inc., 58 F.3d 341, 343 (7th Cir. 1995)).
Finding that plaintiff's expert opinion was "not based upon any particular evidence or trained observation, but represents mere subjective belief and unsupported speculation," the court granted defendant's motion for judgment as a matter of law and directed the clerk to enter judgment for the defendant.

Similarly, the United States Court of Appeals for the Eighth Circuit in Blue Dane Simmental Corp. v. American Simmental Ass'n upheld the district court's decision to exclude plaintiff's damage expert's testimony and to grant the defendant a judgment as a matter of law after a nine-day jury trial. Although a qualified economist who properly used a "before-and-after modeling" for calculating damages, the court held that because the expert had failed to input all the relevant independent variables that might have affected a change in the value of a breed, the expert's damage opinion was insufficiently reliable to satisfy Daubert and Kumho.

F. DAUBERT/JOINER/KUMHO IN THE CONTEXT OF APPELLATE REVIEW

Whatever the Daubert/Joiner/Kumho ruling made in the context of either pretrial or trial motions, a lower court's ruling is subject to review under Joiner's abuse of discretion standard. Although cases decided since Kumho reveal that appellate courts are deferential to a trial court's expert evidence rulings, on occasion appellate courts have determined that lower courts have abused their discretion in either admitting inadmissible evidence or excluding admissible evidence. Cases decided since Kumho finding an abuse of discretion in the lower court's Daubert ruling have variously (1) applied the harmless error doctrine to erroneous expert evidence rulings; (2) reversed and remanded for a new trial where appropriate; and (3) directed the entry of a judgment contrary to the lower court's judgment without remanding.

1. Harmless Error

As with many other evidentiary errors, the appellate court may always find that the admission or exclusion of expert testimony in the court below constituted harmless error. For example, the United States Court of Appeals for the Tenth Circuit in United States v. Char-

131. Comer, 63 F. Supp. 2d at 931 (citing Kumho Tire Co., Ltd., v. Carmichael, 119 S. Ct. 1167, 1176 (quoting Joiner, 522 U.S. at 138-39)).
132. Id. at 934.
133. Id. at 941.
134. 178 F.3d 1035 (8th Cir. 1999).
135. Blue Dane Simmental Corp. v. American Simmental Ass'n, 178 F.3d 1035, 1040 (8th Cir. 1999).
136. See infra notes 137-206 and accompanying text.
concluded that the trial court erred in permitting a physician, without adequate foundation, to give an unconditional opinion in a sexual assault case that each of the child complainants had been sexually abused, but held the error to be harmless. The court explained that while the record demonstrated that the challenged physician was improperly "merely vouching for the credibility of the child complainants," the error was harmless because other testifying experts had properly testified that the symptoms exhibited by the child complainants were consistent with sexual abuse, without testifying that abuse had in fact occurred in this case.

Similarly, the United States Court of Appeals for the Sixth Circuit held in Greenwell v. Boatwright that the trial court erred in permitting defendant's accident reconstructionist to testify that eyewitness testimony about accidents is unreliable, but held the error harmless because the expert's testimony focused primarily on the physical evidence supporting the expert's testimony, which contradicted some eyewitness accounts.

2. Reverse and Remand

In many cases, the decisions to either admit or exclude expert testimony is outcome determinative and, therefore, beyond the doctrine of harmless error. Typically a reviewing court finding such error will reverse and remand for further trial proceedings. For example, the United States Court of Appeals for the Fifth Circuit in Tanner v. Westbrook vacated the judgment of the trial court and remanded for a new trial when the court erroneously admitted, without adequate foundation, the expert testimony of a physician regarding whether a child's cerebral palsy was caused by birth asphyxia.


To resolve a split of authority on the issue of whether an appellate court must automatically remand to the lower court for further proceedings if the appellate court reverses a Daubert ruling, the United States Supreme Court recently addressed the issue in Weisgram v.

137. 189 F.3d 1251 (10th Cir. 1999).
138. United States v. Charley, 189 F.3d 1251, 1266, 1268, 1272 (10th Cir. 1999).
139. Charley, 189 F.3d at 1266.
140. Id. at 1271.
141. 184 F.3d 492 (6th Cir. 1999).
143. 174 F.3d 542 (5th Cir. 1999).
144. Tanner v. Westbrook, 174 F.3d 542, 549 (5th Cir. 1999).
145. 120 S. Ct. 1011 (2000).
Marley Co.\textsuperscript{146} Weisgram involved a wrongful death action filed when Bonnie Weisgram died for carbon monoxide poisoning caused by a fire in her home. The trial court admitted the expert testimony of three of plaintiff’s witnesses who testified, over defendant’s \textit{Daubert} objection, that a defect in a heater manufactured by the defendant caused both the fire and Weisgram’s death. In addition to objecting to plaintiff’s expert testimony, the defendant, at the close of Weisgram’s evidence and again at the close of all the evidence, moved for a judgment as a matter of law.

On appeal, the United States Court of Appeal for the Eighth Circuit reversed, reasoning that the testimony of Weisgram’s expert witnesses should have been excluded as speculative. Rather than exercising their discretionary authority to remand under Rule 50(d) of the Federal Rules of Civil Procedure, in order to give the plaintiff an opportunity to present additional expert testimony, the Eighth Circuit directed a judgment as a matter of law against the jury verdict winner.

On appeal to the United States Supreme Court, the plaintiff argued that, under Rule 50(d), an appellate court may not order the entry of judgment for the verdict loser when an appellate court has excluded evidence, but must remand to consider whether a new trial is necessary.\textsuperscript{147} Affirming on appeal, the United States Supreme Court held that following \textit{Daubert} and \textit{Kumho}, all parties have been put on notice of the “exacting standards of reliability” expert testimony must meet.

It is implausible to suggest, post-\textit{Daubert}, that parties will initially present less than their best expert evidence in the expectation of a second chance should their first try fail. We therefore find unconvincing Weisgram’s fears that allowing courts of appeals to direct the entry of judgment for defendants will punish plaintiffs who could have shored up their cases by other means had they known their expert testimony would be found inadmissible.\textsuperscript{148}

Weisgram, therefore, puts counsel on notice that when the \textit{Daubert} issue is addressed, whether at pretrial or during the trial, the foundational evidence proffered must be capable of not only persuading the trial court, but also any court on appeal.

\begin{flushleft}
\textsuperscript{146} Weisgram v. Marley Co., 120 S. Ct. 1011, 1011-1022 (2000).
\textsuperscript{147} Weisgram, 120 S. Ct. at 1017.
\textsuperscript{148} Id. at 1021.
\end{flushleft}
V. THE IMPORTANCE OF THE DAUBERT/JOINER/KUMHO QUESTIONS TO EVERY ASPECT OF EXPERT TESTIMONY

Cases decided since Kumho reveal that the Daubert/Joiner/Kumho relevancy and reliability tests apply not only at every stage of the trial proceedings, but also to every aspect of expert testimony, including competency, theory, methodology and conclusions drawn therefrom.

1. Competency

The first issue raised concerning the reliability of expert testimony is the competency of the expert to give relevant and reliable testimony. The competency challenge may extend to either the area of expertise or the scope of the particular expert's education, training, or experience in the relevant field at issue. For example, in Smith v. Rasmussen, the court excluded, on competency grounds, the testimony of defendant's psychiatrist, who was experienced in general psychiatry, but admitted the testimony of plaintiff's psychiatrist, who had specialized experience in the specific area in dispute. The issue arose in the context of defendant's denial of plaintiff's request for Medicaid benefits to pay for sex reassignment surgery. Whether the surgery was covered by Medicaid depended upon whether the surgery was deemed "medically necessary" rather than merely "experimental." The court permitted plaintiff's expert, a psychiatrist who had treated over a thousand individuals suffering from some form of gender identity disorder or gender dysphoria, to testify that while sex reassignment surgery remains relatively unknown and "controversial" "outside of the community of professionals actively involved in treatment of gender identity disorder," there are a certain number of cases where the surgery is the only appropriate treatment. In contrast, the court excluded under Daubert and Kumho the opinion testimony of defendant's psychiatrist who, based upon a review of the literature, attempted to testify that sex reassignment surgery "is 'controversial,' and more specifically, 'poorly evolved, less that perfected, certainly not [a] curative procedure.'" Citing ample authority, the court explained that "[c]ourts are suspicious of purported expertise premised solely or primarily on a literature review."

149. 57 F. Supp. 2d 736 (N.D. Iowa 1999).
152. Id. at 766 (citing United States v. Paul, 175 F.3d 906, 912 (11th Cir. 1999) (district court properly excluded expert testimony on handwriting analysis gleaned from review of the literature rather than experience); Burton v. Danek Med., Inc., No. CIV.A.
In comparison, the United States Court of Appeals for the Eighth Circuit in *United States v. Molina*\(^{153}\) affirmed the district court’s competency ruling under both *Daubert* and *Kumho* permitting a law enforcement expert with experience in drug enforcement to testify regarding the “modus operandi of drug dealers in areas concerning activities which are not something with which most jurors are familiar.”\(^{154}\) Under the facts of the case, it was within the trial court’s discretion to permit a police captain to testify “regarding indicia of the drug trafficking trade such as drug distribution amounts, the use of guns, the use of aliases, and the use of surveillance partners.”\(^{155}\) In an analogous case, the United States Court of Appeals for the Seventh Circuit in *United States v. Romero*\(^{156}\) upheld the trial court’s ruling permitting an FBI agent to testify about the modus operandi of child sexual molesters. In a more traditional case, the court in *Deering v. Reich*\(^{157}\) affirmed the trial court’s *Daubert/Joiner/Kumho* ruling that a forensic pathologist—who had conducted at least seventy-five autopsies involving bullet wounds—was qualified to testify that by looking at a wound track, an expert can determine the relative positions of the parties involved in the shooting.

2. **Theory**

Once an expert has been qualified, the proponent of expert testimony must establish the reliability of the theory upon which the expert’s opinion depends. In many cases the underlying theory upon which an expert’s testimony rests will not be in issue. However, when it is in issue, *Daubert*, *Joiner*, and *Kumho* all require that the theory underlying the expert’s opinion must be supported by more than speculation or conjecture. For example, the United States Court of Ap-
peals for the Fifth Circuit in Black v. Food Lion, Inc.\textsuperscript{158} reversed and remanded a $300,000 verdict in a slip and fall case because the expert's underlying theory, that fibromyalgia may be caused by hormonal damage which may be caused by a traumatic event, "has not . . . been verified by testing and, thus, has not been peer-reviewed."\textsuperscript{159} The court explained that even though plaintiff's physician followed a generally accepted medical methodology of ruling "out some known causes of disease in order to finalize a diagnosis,"\textsuperscript{160} the court concluded that "use of a general methodology cannot vindicate a conclusion for which there is no underlying medical support."\textsuperscript{161}

3. Methodology

One of the important messages of Kumho is that a qualified expert should not be permitted to testify unless the methodology, instrument or technique relied upon in forming the expert's opinion is shown to be reliable. Several cases decided since Kumho have discussed the foundational importance of establishing the reliability of the expert's methodology. For example, the court in American Tourmaline Fields \textit{v. International Paper Co.}\textsuperscript{162} granted defendant's motion to exclude a damage expert's testimony because of the unreliability of the mining engineer's methodology. Specifically, the plaintiff called an expert to testify regarding the amount and value of the gemstone tourmaline, located with the leased property under dispute. In calculating the amount of the tourmaline, the expert relied upon a mathematical formula based upon previous production at the site. Although plaintiff's expert testified that both he and others had used the method for forty years to value mining prospects, the court excluded the testimony based upon the failure of the foundation to satisfy the \textit{Daubert} factors. First, despite expert testimony that mining companies had relied upon the method for forty years, the court held that the plaintiff

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\item \textsuperscript{158} 171 F.3d 308 (5th Cir. 1999).
\item \textsuperscript{159} Black v. Food Lion, Inc., 171 F.3d 308, 313 (5th Cir. 1999). The court observed that the plaintiff's expert attempted to offer recent studies indicating some link between physical trauma and fibromyalgia, but the studies were excluded because during discovery they had not been properly shown to opposing counsel. Black, 171 F.3d at 313 n.3.
\item \textsuperscript{160} Black, 171 F.3d at 314.
\item \textsuperscript{161} Id. The court in Hultberg \textit{v. Wal-Mart Stores, Inc.}, No. CIV. A. 97-2858, 1999 WL 244030, at *1 (E.D. La. Apr. 22, 1999) granted defendant's motion in limine to exclude expert testimony that a slip and fall may have been the cause of the plaintiff developing fibromyalgia. The court observed that while plaintiff noted that studies may now be available to support a causal link between a traumatic event and developing fibromyalgia, "[w]ithout such evidence, however, this Court must follow the clear mandate set forth by the Fifth Circuit in Black \textit{v. Food Lion, Inc.} less than a month ago." Hultberg \textit{v. Wal-Mart Stores, Inc.}, No. CIV. A. 97-2858, 1999 WL 244030, at *1 (E.D. La. Apr. 22, 1999).
\item \textsuperscript{162} No. CIV.A.3:96CV3363D, 1999 WL 242690 (N.D. Tex. Apr. 19, 1999).
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"has failed to adduce sufficient evidence to satisfy its burden of establishing that [the expert's] methodology can be or has been tested."\(^{163}\) Second, while plaintiff’s expert testified that his methodology was the subject of several published articles, the court complained that plaintiff “has not provided the court with copies of these articles . . . or even tendered excerpts from any specific discussion about the methodology.”\(^{164}\) Third, although the expert testified that his method had a ninety-five percent accuracy rate, the court observed that he “has not introduced any independent evidence that supports this assertion, and [the expert] did not elaborate on how he calculated the method’s accuracy rate.”\(^{165}\) Fourth, the expert did not mention any standards or controls for his methodology.\(^{166}\) Fifth, the expert failed to supply evidence that his methodology is generally accepted in the relevant scientific community.\(^{167}\) Accordingly, the court granted the defendant's motion to exclude the expert from testifying because of the failure to establish any of the \textit{Daubert} factors.\(^{168}\)

Similarly, the United States Court of Appeals for the Eighth Circuit, in \textit{United States v. Iron Cloud},\(^{169}\) reversed and remanded a criminal case where the trial court improperly admitted the results of a portable breath test ("PBT") as evidence of intoxication. The court explained that no court has permitted the government to admit PBT test results for any purpose other than probable cause for arrest because of the inherent unreliability of the test.\(^{170}\)

Again in \textit{United States v. Wyk},\(^{171}\) the court excluded the opinion testimony of a handwriting expert as to the authorship of questioned “threatening” documents because of the insufficiency in the foundation of the reliability of the technique of “forensic stylistics.” The court observed that while one published article recommended “forensic stylistics” as a reliable method for handwriting comparisons, the government could not meet its \textit{Daubert} burden \\

to identify a known rate of error, establish what amount of samples is necessary for an expert to be able to reach a conclusion as to the probability of authorship, or pinpoint any meaningful peer review. Additionally . . . there is no univer-

\(^{165}\) Id. at *5.
\(^{166}\) Id.
\(^{167}\) Id.
\(^{168}\) Id. at *6.
\(^{169}\) 171 F.3d 587 (8th Cir. 1999).
\(^{170}\) United States v. Iron Cloud, 171 F.3d 587, 590-91 (8th Cir. 1999).
sally recognized standard for certifying an individual as an expert in forensic stylistics.\textsuperscript{172} Consequently, the court granted the defendant's motion in limine to the extent it requested that the expert's opinion as to the authorship of the writings be excluded.

In comparison, the United States Court of Appeals for the Fourth Circuit in \textit{Westberry v. Gislaved Gummi AB},\textsuperscript{173} against a \textit{Daubert} challenge, affirmed the relevance and reliability of a physician's causation opinion because the physician had relied upon the well established methodology of "differential diagnosis" or "differential etiology" in forming his opinion. The causation issue in \textit{Westberry} was whether the talcum powder the defendant placed on rubber gaskets it manufactured caused plaintiff's serious sinus problems. During the trial, the defendant unsuccessfully objected to plaintiff's expert physician giving testimony that "the sinus problems experienced by Westberry were caused by the inhalation of airborne talc in the workplace."\textsuperscript{174} On appeal, the defendant argued that the testimony of plaintiff's expert should have been excluded under \textit{Daubert} because plaintiff's expert "had no epidemiological studies, no peer-reviewed published studies, no animal studies, and no laboratory data to support a conclusion that the inhalation of talc caused Westberry's sinus disease."\textsuperscript{175}

Affirming the admission of the testimony, the Fourth Circuit explained that "[d]ifferential diagnosis, or differential etiology, is a standard scientific technique of identifying the cause of a medical problem by eliminating the likely causes until the most probable one is isolated."\textsuperscript{176} Indeed, the court observed that differential diagnosis as a methodology for identifying the cause of a medical problem "has widespread acceptance in the medical community, has been subject to peer review, and does not frequently lead to incorrect results."\textsuperscript{177} Consequently, the trial court did not err in permitting the expert to rely upon a differential diagnosis in forming his opinion on causation.\textsuperscript{178}

4. \textit{The Adequacy of the Factual Foundation}

The Court in \textit{Daubert} suggested that in evaluating the relevancy and reliability of expert testimony, the trial court's "focus, of course,

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\textsuperscript{173} 178 F.3d 257 (4th Cir. 1999).
\textsuperscript{174} \textit{Westberry v. Gislaved Gummi AB}, 178 F.3d 257, 261 (4th Cir. 1999).
\textsuperscript{175} \textit{Westberry}, 178 F.3d at 262.
\textsuperscript{176} \textit{Id.} (citing Baker v. Dalkon Shield Claimants Trust, 156 F.3d 248, 252-53 (1st Cir. 1998)).
\textsuperscript{177} \textit{Id.} (quoting Brown v. Southeastern Penn. Transp. Auth. (\textit{In re Paoli R.R. Yard PCB Litig.}), 35 F.3d 717, 758 (3d Cir. 1994)).
\textsuperscript{178} \textit{Id.} at 263.
\end{flushleft}
must be solely on principles and methodology, not on the conclusions that they generate.\textsuperscript{179} By placing the "focus" on theory and methodology, the Court implied that the relevancy and reliability of factual applications to established scientific theories and methodologies were more properly the domain of the jury. Thus, the theories that everyone has unique fingerprints or DNA markers and that there exists established protocol for classifying or matching fingerprints or DNA samples, place the subject matter of these inquiries (assuming proper foundation testimony regarding theory and methodology) beyond the court's "gatekeeping" responsibility. Following this approach, experts qualified to testify regarding fingerprint or DNA identification should be allowed to offer their identification opinions, leaving the credibility of their opinions to the rigors of the adversarial system acknowledged by Justice Blackmun in \textit{Daubert}.\textsuperscript{180}

The deference many courts grant to the conclusions drawn by experts from reliable theories and methodologies, consistent with the \textit{Daubert} dicta, can be seen in \textit{United States v. Nichols}.\textsuperscript{181} In \textit{Nichols}, a case involving expert testimony from the Oklahoma City bombing, the defendant on appeal argued that the trial court erred in refusing to hold a Rule 104(a) hearing to test the reliability of the expert's conclusions. Affirming on appeal, the United States Court of Appeals for the Tenth Circuit held that questions regarding compliance with valid protocols were matters "involving the credibility of witnesses and weighing of the evidence, both of which were more suitable for resolution by the jury."\textsuperscript{182}

Similarly, the United States Court of Appeals for the Fourth Circuit in \textit{Westberry v. Gislaved Gummi AB}\textsuperscript{183} upheld the admissibility of a physician's conclusions that high levels of airborne talc in defendant's workplace caused the workers' illnesses despite defendant's \textit{Daubert} objection that the expert's "differential diagnosis" had neither "ruled out" other potential causes nor "ruled in" the possibility of airborne talc in the workplace as the actual cause. In deferring to the jury for the reliability of the conclusions drawn from expert opinion, the court explained that "[a] medical expert's causation conclusion should not be excluded because he or she has failed to rule out every possible alternative cause of a plaintiff's illness."\textsuperscript{184} Similarly, while

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  \item \textsuperscript{179} \textit{Daubert}, 509 U.S. at 595.
  \item \textsuperscript{180} \textit{Id. at 595-97.}
  \item \textsuperscript{181} 169 F.3d 1255 (10th Cir. 1999). \textit{See supra} at 39, n.112.
  \item \textsuperscript{182} United States v. Nichols, 169 F.3d 1255, 1263 (10th Cir. 1999) (referring to United States v. McVeigh, 955 F. Supp. 1278, 1279 (D. Colo. 1997) (which decided the same issue)).
  \item \textsuperscript{183} 178 F.3d 257 (4th Cir. 1999).
  \item \textsuperscript{184} Westberry v. Gislaved Gummi AB, 178 F.3d 257, 265 (4th Cir. 1999) (quoting Heller v. Shaw Indus., Inc., 167 F.3d 146, 156 (3d Cir. 1999)).
\end{itemize}
plaintiff's expert had no scientific studies or literature establishing talc as a possible explanation of plaintiff's sinus condition, it was undisputed that both the inhalation of high levels of talc could irritate mucous membranes and the defendant's workplace did in fact expose workers to high levels of airborne talc. Accordingly, plaintiff's expert testimony was sufficiently reliable to be admissible on the issue of causation, leaving the issue of weight to the jury.

However, whatever the Court had in mind by the theory-and-methodology-but-not-conclusions dictum contained in Daubert, and followed in Nichols and Westberry, the distinction between theory and methodology—on the one hand—and conclusions drawn therefrom—on the other hand—has proven difficult to administer. The Court in Joiner observed that while Daubert implied that the court's gatekeeping focus should be on theory and methodology, the reality is that "conclusions and methodology are not entirely distinct from one another," and that "trained experts commonly extrapolate from existing data." The Court in Joiner further observed that "nothing in either Daubert or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the ipse dixit of the expert."

Following Joiner and Kumho, many courts have subjected the conclusions of experts, as well as their theories and methodologies, to Daubert's relevance and reliability standards. Of course, if a court believes that an expert's conclusions lack adequate foundational bases, the court should permit the proponent to make an offer of proof in a Daubert hearing. For example, the United States Court of Appeals for the Third Circuit in Padillas v. Stork-Gamco, Inc. reversed and remanded the district court's decision to exclude an expert report and grant a motion for summary judgment without the benefit of a Daubert hearing. The court explained that if the trial court was concerned with the factual basis of the expert's report, "it should have held an in limine hearing to assess the admissibility of the [report], giving plaintiff an opportunity to respond to the court's concerns." The court concluded that "[g]iven the complex factual inquiry required by Daubert, courts will be hard-pressed in all but the most clear-cut cases to gauge the reliability of expert proof on a truncated record."

185. Westberry, 178 F.3d at 264.
186. Joiner, 522 U.S. at 146.
187. Id.
188. 186 F.3d 412 (3d Cir. 1999).
190. Id. at 418 (quoting Cortes-Irizarry v. Corporación Insular De Seguros, 111 F.3d 184, 188 (1st Cir. 1997)).
If the proponent of expert testimony is unable to provide an adequate factual foundation for the conclusions drawn by the expert during the Daubert hearing or during the trial, then the court should exclude the testimony as unreliable. For example, in Oglesby v. General Motors Corp., a products liability case, the United States Court of Appeals for the Fourth Circuit affirmed the trial court’s exclusion of expert testimony even though the exclusion was based upon the unreliability of the expert’s factual foundation, rather than the unreliability of either the theory or methodology involved in the expert’s analysis. The plaintiff, an automobile mechanic, argued that the defective manufacture of defendant’s radiator hose caused plaintiff’s burn injuries when it detached as he was adjusting a transmission cable on a pickup truck. In opposition to defendant’s motion for summary judgment, plaintiff offered the deposition testimony of an expert mechanical engineer who offered the opinion that the radiator hose detached from the radiator because a defect in the “plastic” round connector that attached the hose to the radiator. The expert expressed an opinion that mishandling of the connector during the manufacturing process caused it to become flattened oval (out-of-round), causing the hose to unloosen over time and eventually leading to the detachment that scalded the plaintiff. Although the trial court ruled (pre-Kumho) that the engineer’s testimony would not be subject to the rigors of Daubert, the court nonetheless excluded his testimony because of the insufficiency of the factual foundation supporting his opinion that the connector contained a manufacturing defect.

Affirming on appeal, the United States Court of Appeals for the Fourth Circuit held that even though the trial court erred in assuming that the rigors of Daubert did not apply to the testimony of engineers (contrary to the subsequent holding in Kumho), the court had nonetheless properly excluded plaintiff’s expert testimony because it lacked factual support. That is, while the court had no problem with the expert’s methodology of applying mechanical engineering principles to explain why the radiator hose had disconnected, his failure to connect up his theory with the facts of the case made his opinion excludable under Daubert and Kumho. Specifically, the court observed that the expert: (1) had not discovered how the part was manufactured; (2) had misidentified the material out of which the connector had been made as “thermo-setting plastic” when it was in fact “nylon composite, glass filled;” and (3) had not conducted any meaningful testing or analysis. Briefly stated, the expert’s opinion should have

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191. 190 F.3d 244 (4th Cir. 1999).
been excluded because he had not done his homework on the facts of the case.

Again, the United States Court of Appeals for the Eighth Circuit decision in *Jaurequi v. Carter Manufacturing Co.* affirmed the trial court's exclusion of expert testimony that lacked an adequate factual foundation. In this products liability case, in which the plaintiff's legs had been amputated in an accident with a combine manufactured by John Deere, the plaintiff's experts proposed giving testimony that the combine had design and warning defects that were causally responsible for plaintiff's injuries. However, both of plaintiff's experts admitted in their respective depositions that they neither had any basis for their respective beliefs, that alternative warnings would have made any difference, nor any basis for the feasibility of their alternative design proposals. Accordingly, the district court excluded their opinions on the basis of the paucity of the factual support of either expert's opinion and the Eighth Circuit affirmed.

Many other courts since *Kumho* have excluded the opinion testimony of qualified experts relying upon reliable methodologies where their conclusions were not supported by adequate factual foundation. For example, expert testimony was held properly excluded in *Blue Dane Simmental Corp. v. American Simmental Ass'n*, of a qualified economist who properly used a "before-and-after modeling" for calculating damages, but failed to input all the relevant independent variables that might have affected a change in the value of a breed; in *Huey v. United Parcel Service, Inc.* of a forensic vocational expert who formed an opinion that the plaintiff had been discharged in retaliation for race discrimination complaints without doing any statistical analysis, studying the employer's personnel files, or reconstructing the underlying facts to determine the cause of the firing; in *Clark v. Takata Corp.*, of a Ph.D. mechanical engineer and a consultant in the field of biomechanics and mechanical engineering who formed opinions that the defendant's lap belt unreasonably failed in a rollover collision and that the lap belt's failure was a proximate cause of the plaintiff's injuries without the support of any testing or engineering analysis of the facts in the case. Similarly, although holding the error harmless, the United States Court of Appeals for the Tenth Circuit in *United States v. Charley* concluded that the trial court erred

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193. 173 F.3d 1076 (8th Cir. 1999).
196. 178 F.3d 1035 (8th Cir. 1999).
197. 165 F.3d 1084 (7th Cir. 1999).
198. 192 F.3d 750 (7th Cir. 1999).
199. 189 F.3d 1251 (10th Cir. 1999).
in permitting a physician, without sufficient foundation in the medical evidence, to give an opinion in a sexual assault case as to whether the assaults had occurred.\textsuperscript{200}

Even more extreme examples of courts taking away from the jury the decision as to whether the expert has sufficient factual support for the proffered expert testimony can be illustrated by \textit{Comer v. American Electric Power}\textsuperscript{201} and \textit{Blue Dane Simmental Corp. v. American Simmental Ass'n.}\textsuperscript{202} In \textit{Comer}, after the jury found the expert’s testimony compelling and rendered a verdict dependent thereon in favor of plaintiff, the court excluded the expert’s testimony and granted defendant’s motion for judgment as a matter of law. The court explained that the expert’s opinions “lack[ed] a reliable factual foundation.”\textsuperscript{203} Contrary to plaintiff’s suggestion that a court’s review of an expert’s opinion is limited to the reliability of the theory or methodology, the court expressed the view that “Rule 702 requires the district court to review the reliability of an expert’s conclusions when appropriate.”\textsuperscript{204} As applied to the expert’s testimony, the court expressed disdain for the expert’s willingness to change his opinion upon the suggestion of counsel. The court also criticized the expert’s “conclusory suppositions” that lacked any foundational support. Finding that plaintiff’s expert opinion “is not based upon any particular evidence or trained observation, but represents mere subjective belief and unsupported speculation,”\textsuperscript{205} the court granted defendant’s motion for judgment as a matter of law and directed the clerk to enter judgment for the defendant.\textsuperscript{206} In \textit{Blue Dane}, the trial court excluded plaintiff’s economist’s damage testimony and granted a judgment as a matter of law after a nine-day jury trial because, although the expert used an acceptable “before-and-after modeling” for calculating damages, he failed to input all the relevant independent variables that might have affected a change in the value of a breed.\textsuperscript{207}

\textbf{VI. CONCLUSION}

Two things are undeniable but somewhat contradictory about the Supreme Court’s holdings in \textit{Daubert/Joiner/Kumho/Weisgram}. First, by superseding the seven-decade-old “generally accepted” \textit{Frye} stan-
standard with the more general two-part analysis that “the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable.” The Court in Daubert expressed both an intent to liberalize the admissibility of expert testimony and faith in the “the capabilities of the jury and of the adversary system generally” to handle expert testimony. Second, while purporting to liberalize the admissibility of expert testimony and trust in the discerning capabilities of the jury, the effect of Daubert/Joiner/Kumho/Weisgram clearly has been to raise (not lower) the bar of admissibility for all expert testimony. Kumho specifically has added to Daubert and Joiner by holding that “Daubert’s general holding—setting forth the trial judge’s general ‘gatekeeping’ obligation—applies not only to testimony based on ‘scientific’ knowledge, but also to testimony based on ‘technical’ and ‘other specialized’ knowledge.” Under the “gate keeping” mandate of Daubert/Joiner/Kumho/Weisgram, the courts have begun to displace the jury as the arbiter of the reliability of every aspect of every expert witness’ testimony at every stage of the proceedings. An attorney who fails to appreciate this important reallocation of the power between judge and jury will do so at the peril of his or her client.

211. Kumho, 119 S. Ct. at 1171.