KUMHO TIRE COMPANY, LTD., ET AL., PETITIONERS v. PATRICK CARMICHAEL, ETC., ET AL.

No. 97-1709

SUPREME COURT OF THE UNITED STATES

526 U.S. 137; 119 S. Ct. 1167; 143 L. Ed. 2d 238; 67 U.S.L.W. 4179; 50 U.S.P.Q.2D (BNA) 1177; 50 Fed. R. Evid. Serv. (Callaghan) 1373; CCH Prod. Liab. Rep. P15,470; 99 Cal. Daily Op. Service 2059; 29 ELR 20638; 1999 Colo. J. C.A.R. 1518; 12 Fla. L. Weekly Fed. S 141

December 7, 1998, Argued
March 23, 1999, Decided

PRIOR HISTORY: ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE ELEVENTH CIRCUIT.

DISPOSITION: 131 F.3d 1433, reversed.

SYLLABUS: When a tire on the vehicle driven by Patrick Carmichael blew out and the vehicle overturned, one passenger died and the others were injured. The survivors and the decedent's representative, respondents here, brought this diversity suit against the tire's maker and its distributor (collectively Kumho Tire), claiming that the tire that failed was defective. They rested their case in significant part upon the depositions of a tire failure analyst, Dennis Carlson, Jr., who intended to testify that, in his expert opinion, a defect in the tire's manufacture or design caused the blow out. That opinion was based upon a visual and tactile inspection of the tire and upon the theory that in the absence of at least two of four specific, physical symptoms indicating tire abuse, the tire failure of the sort that occurred here was caused by a defect. Kumho Tire moved to exclude Carlson's testimony on the ground that his methodology failed to satisfy Federal Rule of Evidence 702, which says: "If scientific, technical, or other specialized knowledge will assist the trier of fact . . . , a witness qualified as an expert . . . may testify thereto in the form of an opinion." Granting the motion (and entering summary judgment for the defendants), the District Court acknowledged that it should act as a reliability "gatekeeper" under *Daubert* v. *Merrell Dow Pharmaceuticals, Inc.,* 509 U.S. 579, 589, 125 L. Ed. 2d 469, 113 S. Ct. 2786, in which this Court held that Rule 702 imposes a special obligation upon a trial judge to ensure that scientific testimony is not only relevant, but reliable. The court noted that *Daubert* discussed four factors -- testing, peer review, error rates, and "acceptability" in the relevant scientific community -- which might prove helpful in determining the reliability of a particular scientific theory or technique, 509 U.S. at 593-594, and found that those factors argued against the reliability of Carlson's methodology. On the plaintiffs' motion for reconsideration, the court agreed that *Daubert* should be applied flexibly, that its four factors were simply illustrative, and that other factors could argue in favor of admissibility. However, the court affirmed its earlier order because it found insufficient indications of the reliability of Carlson's methodology. In reversing, the Eleventh Circuit held that the District Court had erred as a matter of law in applying *Daubert.* Believing that *Daubert* was limited to the scientific context, the court held that the *Daubert* factors did not apply to Carlson's testimony, which it characterized as skill- or experience-based.

Held:

1. The Daubert factors may apply to the testimony of engineers and other experts who are not scientists. Pp. 7-13.

(a) The *Daubert* "gatekeeping" obligation applies not only to "scientific" testimony, but to all expert testimony. Rule 702 does not distinguish between "scientific" knowledge and "technical" or "other specialized" knowledge, but makes clear that any such knowledge might become the subject of expert testimony. It is the Rule's word "knowledge," not the words (like "scientific") that modify that word, that establishes a standard of evidentiary reliability. 509 U.S. at 589-590. *Daubert* referred only to "scientific" knowledge because that was the nature of the expertise there at issue. Id. at 590, n. 8. Neither is the evidentiary rationale underlying *Daubert*'s "gatekeeping" determination limited to "scientific"

knowledge. Rules 702 and 703 grant all expert witnesses, not just "scientific" ones, 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. Id. at 592. Finally, 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, since there is no clear line dividing the one from the others and no convincing need to make such distinctions. Pp. 7-9.

(b) A trial judge determining the admissibility of an engineering expert's testimony *may* consider one or more of the specific *Daubert* factors. The emphasis on the word "may" reflects *Daubert*'s description of the Rule 702 inquiry as "a flexible one." 509 U.S. at 594. The *Daubert* factors do *not* constitute a definitive checklist or test, id. at 593, and the gatekeeping inquiry must be tied to the particular facts, id. at 591. Those factors may or may not be pertinent in assessing reliability, depending on the nature of the issue, the expert's particular expertise, and the subject of his testimony. Some of those factors may be helpful in evaluating the reliability even of experience-based expert testimony, and the Court of Appeals erred insofar as it ruled those factors out in such cases. In determining whether particular expert testimony is reliable, the trial court should consider the specific *Daubert* factors where they are reasonable measures of reliability. Pp. 10-12.

(c) The court of appeals must apply an abuse-of-discretion standard when it reviews the trial court's decision to admit or exclude expert testimony. *General Electric Co.* v. *Joiner,* 522 U.S. 136, 138-139, 139 L. Ed. 2d 508, 118 S. Ct. 512. That standard applies as much to the trial court's decisions about how to determine reliability as to its ultimate conclusion. Thus, whether *Daubert*'s specific factors are, or are not, reasonable measures of reliability in a particular case is a matter that the law grants the trial judge broad latitude to determine. See id. at 143. The Eleventh Circuit erred insofar as it held to the contrary. P. 13.

2. Application of the foregoing standards demonstrates that the District Court's decision not to admit Carlson's expert testimony was lawful. The District Court did not question Carlson's qualifications, but excluded his testimony because it initially doubted his methodology and then found it unreliable after examining the transcript in some detail and considering respondents' defense of it. The doubts that triggered the court's initial inquiry were reasonable, as was the court's ultimate conclusion that Carlson could not reliably determine the cause of the failure of the tire in question. The question was not the reliability of Carlson's methodology in general, but rather whether he could reliably determine the cause of failure of *the particular tire at issue.* That tire, Carlson conceded, 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 he said indicated, not a defect, but abuse. Moreover, Carlson's own testimony cast considerable doubt upon the reliability of both his theory about the need for at least two signs of abuse and his proposition about the significance of visual inspection in this case. Respondents stress that other tire failure experts, like Carlson, rely on visual and tactile examinations of tires. But there is no indication in the record that other experts in the industry use Carlson's *particular* approach or that tire experts normally make the very fine distinctions necessary to support his conclusions, nor are there references to articles or papers that validate his approach. Respondents' argument that the District Court too rigidly applied *Daubert* might have had some validity with respect to the court's initial opinion, but fails because the court, on reconsideration, recognized that the relevant reliability inquiry should be "flexible," and ultimately based its decision upon Carlson's failure to satisfy either *Daubert*'s factors *or any other* set of reasonable reliability criteria. Pp. 13-19.

131 F.3d 1433, reversed.

COUNSEL:

Joseph H. Babington argued the cause for petitioners.

Jeffrey P. Minear argued the cause for the United States, as amicus curiae, by special leave of court.

Sidney W. Jackson argued the cause for respondents.

JUDGES: BREYER, J., delivered the opinion of the Court, in which REHNQUIST, C. J., and O'CONNOR, SCALIA, KENNEDY, SOUTER, THOMAS, and GINSBURG, JJ., joined, and in which STEVENS, J., joined as to Parts I and II.

SCALIA, J., filed a concurring opinion, in which O'CONNOR and THOMAS, JJ., joined. STEVENS, J., filed an opinion concurring in part and dissenting in part.

OPINIONBY: BREYER

OPINION: JUSTICE BREYER delivered the opinion of the Court.

In *Daubert* v. *Merrell Dow Pharmaceuticals, Inc.,* 509 U.S. 579, 125 L. Ed. 2d 469, 113 S. Ct. 2786 (1993), this Court focused upon the admissibility of scientific expert testimony. It pointed out that such testimony is admissible only if it is both relevant and reliable. And it held 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." Id. at 597. The Court also discussed certain more specific factors, such as testing, peer review, error rates, and "acceptability" in the relevant scientific community, some or all of which might prove helpful in determining the reliability of a particular scientific "theory or technique." 509 U.S. at 593-594.

This case requires us to decide how *Daubert* applies to the testimony of engineers and other experts who are not scientists. We conclude 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. See Fed. Rule Evid. 702. We also conclude that a trial court *may* consider one or more of the more specific factors that *Daubert* mentioned when doing so will help determine that testimony's reliability. But, as the Court stated in *Daubert*, the test of reliability is "flexible," and *Daubert*'s list of specific factors neither necessarily nor exclusively applies to all experts or in every case. Rather, the law grants a district court the same broad latitude when it decides *how* to determine reliability as it enjoys in respect to its ultimate reliability determination. See *General Electric Co.* v. *Joiner,* 522 U.S. 136, 143, 139 L. Ed. 2d 508, 118 S. Ct. 512 (1997) (courts of appeals are to apply "abuse of discretion" standard when reviewing district court's reliability determination). Applying these standards, we determine that the District Court's decision in this case -- not to admit certain expert testimony -- was within its discretion and therefore lawful.

I

On July 6, 1993, the right rear tire of a minivan driven by Patrick Carmichael blew out. In the accident that followed, one of the passengers died, and others were severely injured. In October 1993, the Carmichaels brought this diversity suit against the tire's maker and its distributor, whom we refer to collectively as Kumho Tire, claiming that the tire was defective. The plaintiffs rested their case in significant part upon deposition testimony provided by an expert in tire failure analysis, Dennis Carlson, Jr., who intended to testify in support of their conclusion.

Carlson's depositions relied upon certain features of tire technology that are not in dispute. A steel-belted radial tire like the Carmichaels' is made up of a "carcass" containing many layers of flexible cords, called "plies," along which (between the cords and the outer tread) are laid steel strips called "belts." Steel wire loops, called "beads," hold the cords together at the plies' bottom edges. An outer layer, called the "tread," encases the carcass, and the entire tire is bound together in rubber, through the application of heat and various chemicals. See generally, *e.g.*, J. Dixon, Tires, Suspension and Handling 68-72 (2d ed. 1996). The bead of the tire sits upon a "bead seat," which is part of the wheel assembly. That assembly contains a "rim flange," which extends over the bead and rests against the side of the tire. See M. Mavrigian, Performance Wheels & Tires 81, 83 (1998) (illustrations).

[Graphic omitted; see printed opinion.]

A. Markovich, How To Buy and Care For Tires 4 (1994).

Carlson's testimony also accepted certain background facts about the tire in question. He assumed that before the blowout the tire had traveled far. (The tire was made in 1988 and had been installed sometime before the Carmichaels bought the used minivan in March 1993; the Carmichaels had driven the van approximately 7,000 additional miles in the two months they had owned it.) Carlson noted that the tire's tread depth, which was 11/32 of an inch when new, App. 242, had been worn down to depths that ranged from 3/32 of an inch along some parts of the tire, to nothing at all along others. Id. at 287. He conceded that the tire tread had at least two punctures which had been inadequately repaired. Id. at 258-261, 322.

Despite the tire's age and history, Carlson concluded that a defect in its manufacture or design caused the blow-out. He rested this conclusion in part upon three premises which, or present purposes, we must assume are not in dispute: First, a tire's carcass should stay bound to the inner side of the tread for a significant period of time after its tread depth has worn away. Id. at 208-209. Second, the tread of the tire at issue had separated from its inner steel-belted carcass prior to the accident. Id. at 336. Third, this "separation" caused the blowout. *Ibid.*

Carlson's conclusion that a defect caused the separation, however, rested upon certain other propositions, several of which the defendants strongly dispute. First, Carlson said that if a separation is *not* caused by a certain kind of tire misuse called "overdeflection" (which consists of underinflating the tire or causing it to carry too much weight, thereby generating heat that can undo the chemical tread/carcass bond), then, ordinarily, its cause is a tire defect. Id. at 193-195, 277-278. Second, he said that if a tire has been subject to sufficient overdeflection to cause a separation, it should reveal certain physical symptoms. These symptoms include (a) tread wear on the tire's shoulder that is greater than the tread wear along the tire's center, id. at 211; (b) signs of a "bead groove," where the beads have been pushed too hard against the bead seat on the inside of the tire's rim, id. at 196-197; (c) sidewalls of the tire with physical signs of deterioration, such as discoloration, id. at 212; and/or (d) marks on the tire's rim flange, id. at 219-220. Third, Carlson said that where he does not find *at least two* of the four physical signs just mentioned (and presumably where there is no reason to suspect a less common cause of separation), he concludes that a manufacturing or design defect caused the separation. Id. at 223-224.

Carlson added that he had inspected the tire in question. He conceded that the tire to a limited degree showed greater wear on the shoulder than in the center, some signs of "bead groove," some discoloration, a few marks on the rim flange, and inadequately filled puncture holes (which can also cause heat that might lead to separation). Id. at 256-257, 258-261, 277, 303-304, 308. But, in each instance, he testified that the symptoms were not significant, and he explained why he believed that they did not reveal overdeflection. For example, the extra shoulder wear, he said, appeared primarily on one shoulder, whereas an overdeflected tire would reveal equally abnormal wear on both shoulders. Id. at 277. Carlson concluded that the tire did not bear at least two of the four overdeflection symptoms, nor was there any less obvious cause of separation; and since neither overdeflection nor the punctures caused the blowout, a defect must have done so.

Kumho Tire moved the District Court to exclude Carlson's testimony on the ground that his methodology failed Rule 702's reliability requirement. The court agreed with Kumho that it should act as a *Daubert*-type reliability "gatekeeper," even though one might consider Carlson's testimony as "technical," rather than "scientific." See *Carmichael* v. *Samyang Tires, Inc.*, 923 F. Supp. 1514, 1521-1522 (SD Ala. 1996). The court then examined Carlson's methodology in light of the reliability-related factors that *Daubert* mentioned, such as a theory's testability, whether it "has been a subject of peer review or publication," the "known or potential rate of error," and the "degree of acceptance . . . within the relevant scientific community." 923 F. Supp. at 1520 (citing *Daubert*, 509 U.S. 579 at 592-594). The District Court found that all those factors argued against the reliability of Carlson's methods, and it granted the motion to exclude the testimony (as well as the defendants' accompanying motion for summary judgment).

The plaintiffs, arguing that the court's application of the *Daubert* factors was too "inflexible," asked for reconsideration. And the Court granted that motion. *Carmichael* v. *Samyang Tires, Inc.*, Civ. Action No. 93-0860-CB-S (June 5, 1996), App. to Pet. for Cert. 1c. After reconsidering the matter, the court agreed with the plaintiffs that *Daubert* should be applied flexibly, that its four factors were \ simply illustrative, and that other factors could argue in favor of admissibility. It conceded that there may be widespread acceptance of a "visual-inspection method" for some relevant purposes. But the court found insufficient indications of the reliability of

> "the component of Carlson's tire failure analysis which most concerned the Court, namely, 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." Id. at 6c.

It consequently affirmed its earlier order declaring Carlson's testimony inadmissable and granting the defendants' motion for summary judgment.

The Eleventh Circuit reversed. See *Carmichael* v. *Samyang Tire, Inc.*, 131 F.3d 1433 (1997). It "reviewed . . . *de novo*" the "district court's legal decision to apply *Daubert*." 131 F.3d at 1435. It noted that "the Supreme Court in *Daubert* explicitly limited its holding to cover only the 'scientific context,'" adding that "a *Daubert* analysis" applies only

where an expert relies "on the application of scientific principles," rather than "on skill- or experience-based observation." 131 F.3d at 1435-1436. It concluded that Carlson's testimony, which it viewed as relying on experience, "falls outside the scope of *Daubert*," that "the district court erred as a matter of law by applying *Daubert* in this case," and that the case must be remanded for further (non-*Daubert*-type) consideration under Rule 702. Id. at 1436.

Kumho Tire petitioned for certiorari, asking us to determine whether a trial court "may" consider *Daubert*'s specific "factors" when determining the "admissibility of an engineering expert's testimony." Pet. for Cert. i. We granted certiorari 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. Fed. Rule Evid. 702; compare, *e.g., Watkins* v. *Telsmith, Inc.*, 121 F.3d 984, 990-991 (CA5 1997), with, *e.g., Compton* v. *Subaru of America, Inc.*, 82 F.3d 1513, 1518-1519 (CA10), cert. denied, 519 U.S. 1042, 136 L. Ed. 2d 536, 117 S. Ct. 611 (1996).

II

A

In *Daubert*, this Court held that Federal Rule of Evidence 702 imposes a special obligation upon a trial judge to "ensure that any and all scientific testimony . . . is not only relevant, but reliable." 509 U.S. at 589. The initial question before us is whether this basic gatekeeping obligation applies only to "scientific" testimony or to all expert testimony. We, like the parties, believe that it applies to all expert testimony. See Brief for Petitioners 19; Brief for Respondents 17.

For one thing, Rule 702 itself says:

> "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."

This language makes no relevant distinction between "scientific" knowledge and "technical" or "other specialized" knowledge. It makes clear that any such knowledge might become the subject of expert testimony. In *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." 509 U.S. at 589-590. Hence, as a matter of language, the Rule applies its reliability standard to all "scientific," "technical," or "other specialized" matters within its scope. We concede that the Court in *Daubert* referred only to "scientific" knowledge. But as the Court there said, it referred to "scientific" testimony "because that was the nature of the expertise" at issue. 509 U.S. at 590, n.8.

Neither is the evidentiary rationale that underlay the Court's basic *Daubert* "gatekeeping" determination limited to "scientific" knowledge. *Daubert* pointed out that Federal Rules 702 and 703 grant expert witnesses testimonial latitude unavailable to other witnesses on the "assumption that the expert's opinion will have a reliable basis in the knowledge and experience of his discipline." 509 U.S. at 592 (pointing out that experts may testify to opinions, including those that are not based on firsthand knowledge or observation). The Rules grant that latitude to all experts, not just to "scientific" ones.

Finally, 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. There is no clear line that divides the one from the others. Disciplines such as engineering rest upon scientific knowledge. Pure scientific theory itself may depend for its development upon observation and properly engineered machinery. And conceptual efforts to distinguish the two are unlikely to produce clear legal lines capable of application in particular cases. Cf. Brief for National Academy of Engineering as *Amicus Curiae* 9 (scientist seeks to understand nature while the engineer seeks nature's modification); Brief for Rubber Manufacturers Association as *Amicus Curiae* 14-16 (engineering, as an "applied science," relies on "scientific reasoning and methodology"); Brief for John Allen et al. as *Amici Curiae* 6 (engineering relies upon "scientific knowledge and methods").

Neither is there a convincing need to make such distinctions. Experts of all kinds tie observations to conclusions through the use of what Judge Learned Hand called "general truths derived from . . . specialized experience." Hand, Historical and Practical Considerations Regarding Expert Testimony 15 Harv. L. Rev. 40, 54 (1901). And whether the specific expert testimony focuses upon specialized observations, the specialized translation of those observations into

theory, a specialized theory itself, or the application of such a theory in a particular case, the expert's testimony often will rest "upon an experience confessedly foreign in kind to [the jury's] own." *Ibid.* The trial judge's effort to assure that the specialized testimony is reliable and relevant can help the jury evaluate that foreign experience, whether the testimony reflects scientific, technical, or other specialized knowledge.

We conclude that *Daubert*'s general principles apply to the expert matters described in Rule 702. The Rule, in respect to all such matters, "establishes a standard of evidentiary reliability." 509 U.S. at 590. It "requires a valid . . . connection to the pertinent inquiry as a precondition to admissibility." 509 U.S. at 592. And where such testimony's factual basis, data, principles, methods, or their application are called sufficiently into question, see Part III, *infra*, the trial judge must determine whether the testimony has "a reliable basis in the knowledge and experience of [the relevant] discipline." 509 U.S. at 592.

B

The petitioners ask more specifically whether a trial judge determining the "admissibility of an engineering expert's testimony" *may* consider several more specific factors that *Daubert* said might "bear on" a judge's gate-keeping determination. These factors include:

-- 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." 509 U.S. at 592-594.

Emphasizing the word "may" in the question, we answer that question yes.

Engineering testimony rests upon scientific foundations, the reliability of which will be at issue in some cases. See, *e.g.*, Brief for Stephen Bobo et al. as *Amici Curiae* 23 (stressing the scientific bases of engineering disciplines). In other cases, the relevant reliability concerns may focus upon personal knowledge or experience. As the Solicitor General points out, there are many different kinds of experts, and many different kinds of expertise. See Brief for United States as *Amicus Curiae* 18-19, and n. 5 (citing cases involving experts in drug terms, handwriting analysis, criminal *modus operandi*, land valuation, agricultural practices, railroad procedures, attorney's fee valuation, and others). Our emphasis on the word "may" thus reflects *Daubert*'s description of the Rule 702 inquiry as "a flexible one." 509 U.S. at 594. *Daubert* makes clear that the factors it mentions do *not* constitute a "definitive checklist or test." 509 U.S. at 593. And *Daubert* adds that the gatekeeping inquiry must be "'tied to the facts'" of a particular "case." 509 U.S. at 591 (quoting *United States* v. *Downing*, 753 F.2d 1224, 1242 (CA3 1985)). We agree with the Solicitor General that "the factors identified in *Daubert* may or may not be pertinent in assessing reliability, depending on the nature of the issue, the expert's particular expertise, and the subject of his testimony." Brief for United States as *Amicus Curiae* 19. The conclusion, in our view, is that we can neither rule out, nor rule in, for all cases and for all time the applicability of the factors mentioned in *Daubert*, nor can we now do so for subsets of cases categorized by category of expert or by kind of evidence. Too much depends upon the particular circumstances of the particular case at issue. *Daubert* itself is not to the contrary. It made clear that its list of factors was meant to be helpful, not definitive. Indeed, those factors do not all necessarily apply even in every instance in which the reliability of scientific testimony is challenged. It might not be surprising in a particular case, for example, that a claim made by a scientific witness has never been the subject of peer review, for the particular application at issue may never previously have interested any scientist. Nor, on the other hand, does the presence of *Daubert*'s general acceptance factor help show that an expert's testimony is reliable where the discipline itself lacks reliability, as, for example, do theories grounded in any so-called generally accepted principles of astrology or necromancy.

At the same time, and contrary to the Court of Appeals' view, some of *Daubert*'s questions can help to evaluate the reliability even of experience-based testimony. In certain cases, it will be appropriate for the trial judge to ask, for example,

how often an engineering expert's experience-based methodology has produced erroneous results, or whether such a method is generally accepted in the relevant engineering community. Likewise, it will at times be useful to ask even of a witness whose expertise is based purely on experience, say, a perfume tester able to distinguish among 140 odors at a sniff, whether his preparation is of a kind that others in the field would recognize as acceptable.

We must therefore disagree with the Eleventh Circuit's holding that a trial judge may ask questions of the sort *Daubert* mentioned only where an expert "relies on the application of scientific principles," but not where an expert relies "on skill- or experience-based observation." 131 F.3d at 1435. We do not believe that Rule 702 creates a schematism that segregates expertise by type while mapping certain kinds of questions to certain kinds of experts. Life and the legal cases that it generates are too complex to warrant so definitive a match.

To say this is not to deny the importance of *Daubert*'s gatekeeping requirement. The objective of that requirement is to ensure the reliability and relevancy of expert testimony. It is to make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field. Nor do we deny that, as stated in *Daubert*, the particular questions that it mentioned will often be appropriate for use in determining the reliability of challenged expert testimony. Rather, we conclude that the trial judge must have considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable. That is to say, a trial court should consider the specific factors identified in *Daubert* where they are reasonable measures of the reliability of expert testimony.

C

The trial court must have the same kind of latitude in deciding *how* to test an expert's reliability, and to decide whether or when special briefing or other proceedings are needed to investigate reliability, as it enjoys when it decides *whether* that expert's relevant testimony is reliable. Our opinion in *Joiner* makes clear that a court of appeals is to apply an abuse-of-discretion standard when it "reviews a trial court's decision to admit or exclude expert testimony." 522 U.S. at 138-139. That standard applies as much to the trial court's decisions about how to determine reliability as to its ultimate conclusion. Otherwise, the trial judge would lack the discretionary authority needed both to avoid unnecessary "reliability" proceedings in ordinary cases where the reliability of an expert's methods is properly taken for granted, and to require appropriate proceedings in the less usual or more complex cases where cause for questioning the expert's reliability arises. Indeed, the Rules seek to avoid "unjustifiable expense and delay" as part of their search for. Rule Evid. 102. Thus, whether *Daubert*'s specific factors are, or are not, reasonable measures of reliability in a particular case is a matter that the law grants the trial judge broad latitude to determine. See *Joiner*, *supra,* at 143. And the Eleventh Circuit erred insofar as it held to the contrary.

III

We further explain the way in which a trial judge "may" consider *Daubert*'s factors by applying these considerations to the case at hand, a matter that has been briefed exhaustively by the parties and their 19 *amici*. The District Court did not doubt Carlson's qualifications, which included a masters degree in mechanical engineering, 10 years' work at Michelin America, Inc., and testimony as a tire failure consultant in other tort cases. Rather, it excluded the testimony because, despite those qualifications, it initially doubted, and then 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." Civ. Action No. 93-0860-CB-S (SD Ala., June 5, 1996), App. to Pet. for Cert. 6c. After examining the transcript in "some detail," 923 F. Supp. at 1518-519, n. 4, and after considering respondents' defense of Carlson's methodology, the District Court determined that Carlson's testimony was not reliable. It fell outside the range where experts might reasonably differ, and where the jury must decide among the conflicting views of different experts, even though the evidence is "shaky." *Daubert*, 509 U.S. at 596. In our view, the doubts that triggered the District Court's initial inquiry here were reasonable, as was the court's ultimate conclusion.

For one thing, and contrary to respondents' suggestion, the specific issue before the court was not the reasonableness *in general* of a tire expert's use of a visual and tactile inspection to determine whether overdeflection had caused the tire's tread to separate from its steel-belted carcass. Rather, it was the reasonableness of using such an approach, along with Carlson's particular method of analyzing the data thereby obtained, to draw a conclusion regarding *the particular matter to which the expert testimony was directly relevant*. That matter concerned the likelihood that a defect in the tire at issue caused its tread to separate from its carcass. The tire in question, the expert conceded, 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. See *supra*, at 3-5; App. 293-294. The relevant issue was whether the expert could reliably determine the cause of *this* tire's separation. Nor was the basis for Carlson's conclusion simply the general theory that, in the absence of evidence of abuse, a defect will normally have caused a tire's separation. Rather, the expert employed a more specific theory to establish the existence (or absence) of such abuse. Carlson testified precisely that in the absence of *at least two* of four signs of abuse (proportionately greater tread wear on the shoulder; signs of grooves caused by the beads; discolored sidewalls; marks on the rim flange) he concludes that a defect caused the separation. And his analysis depended upon acceptance of a further implicit proposition, namely, that his visual and tactile inspection could determine that the tire before him had not been abused despite some evidence of the presence of the very signs for which he looked (and two punctures).

For another thing, the transcripts of Carlson's depositions support both the trial court's initial uncertainty and its final conclusion. Those transcripts cast considerable doubt upon the reliability of both the explicit theory (about the need for two signs of abuse) and the implicit proposition (about the significance of visual inspection in this case). Among other things, the expert could not say whether the tire had traveled more than 10, or 20, or 30, or 40, or 50 thousand miles, adding that 6,000 miles was "about how far" he could "say with any certainty." Id. at 265. The court could reasonably have wondered about the reliability of a method of visual and tactile inspection sufficiently precise to ascertain with some certainty the abuse-related significance of minute shoulder/center relative tread wear differences, but insufficiently precise to tell "with any certainty" from the tread wear whether a tire had traveled less than 10,000 or more than 50,000 miles. And these concerns might have been augmented by Carlson's repeated reliance on the "subjectiveness" of his mode of analysis in response to questions seeking specific information regarding how he could differentiate between a tire that actually had been overdeflected and a tire that merely looked as though it had been. Id. at 222, 224-225, 285-286. They would have been further augmented by the fact that Carlson said he had inspected the tire itself for the first time the morning of his first deposition, and then only for a few hours. (His initial conclusions were based on photographs.) Id. at 180.

Moreover, prior to his first deposition, Carlson had issued a signed report in which he concluded that the tire had "not been . . . overloaded or underinflated," not because of the absence of "two of four" signs of abuse, but simply because "the rim flange impressions . . . were normal." Id. at 335-336. That report also said that the "tread depth remaining was 3/32 inch," id. at 336, though the opposing expert's (apparently undisputed) measurements indicate that the tread depth taken at various positions around the tire actually ranged from .5/32 of an inch to 4/32 of an inch, with the tire apparently showing greater wear along *both* shoulders than along the center, id. at 432-433.

Further, in respect to one sign of abuse, bead grooving, the expert seemed to deny the sufficiency of his own simple visual-inspection methodology. He testified that most tires have some bead groove pattern, that where there is reason to suspect an abnormal bead groove he would ideally "look at a lot of [similar] tires" to know the grooving's significance, and that he had not looked at many tires similar to the one at issue. Id. at 212-213, 214, 217.

Finally, the court, after looking for a defense of Carlson's methodology as applied in these circumstances, found no convincing defense. Rather, it found (1) that "none" of the *Daubert* factors, including that of "general acceptance" in the relevant expert community, indicated that Carlson's testimony was reliable, 923 F. Supp. at 1521; (2) that its own analysis "revealed no countervailing factors operating in favor of admissibility which could outweigh those identified in *Daubert*," App. to Pet. for Cert. 4c; and (3) that the "parties identified no such factors in their briefs," *ibid.* For these three reasons *taken together,* it concluded that Carlson's testimony was unreliable.

Respondents now argue to us, as they did to the District Court, that a method of tire failure analysis that employs a visual/tactile inspection is a reliable method, and they point both to its use by other experts and to Carlson's long experience working for Michelin as sufficient indication that that is so. But no one denies that an expert might draw a conclusion from a set of observations based on extensive and specialized experience. Nor does anyone deny that, as a general matter, tire abuse may often be identified by qualified experts through visual or tactile inspection of the tire. See Affidavit of H. R. Baumgardner 1-2, cited in Brief for National Academy of Forensic Engineers as *Amici Curiae* 16 (Tire engineers rely on visual examination and process of elimination to analyze experimental test tires). As we said before, *supra,* at 14, the question before the trial court was specific, not general. The trial court had to decide whether this particular expert had sufficient specialized knowledge to assist the jurors "in deciding the particular issues in the case." 4 J. McLaughlin, Weinstein's Federal Evidence P702.05[1], p. 702-33 (2d ed. 1998); see also Advisory Committee's Note on Proposed Fed. Rule Evid. 702, Preliminary Draft of Proposed Amendments to the Federal Rules of Civil Procedure and Evidence: Request for Comment 126 (1998) (stressing that district courts must "scrutinize" whether the "principles and methods" employed by an expert "have been properly applied to the facts of the case").

The particular issue in this case concerned the use of Carlson's two-factor test and his related use of visual/tactile inspection to draw conclusions on the basis of what seemed small observational differences. We have found no indication in the record that other experts in the industry use Carlson's two-factor test or that tire experts such as Carlson normally make the very fine distinctions about, say, the symmetry of comparatively greater shoulder tread wear that were necessary, on Carlson's own theory, to support his conclusions. Nor, despite the prevalence of tire testing, does anyone refer to any articles or papers that validate Carlson's approach. Compare Bobo, Tire Flaws and Separations, in Mechanics of Pneumatic Tires 636-637 (S. Clark ed. 1981); C. Schnuth et al., Compression Grooving and Rim Flange Abrasion as Indicators of Over-Deflected Operating Conditions in Tires, presented to Rubber Division of the American Chemical Society, Oct. 21-24, 1997; J. Walter & R. Kiminecz, Bead Contact Pressure Measurements at the Tire-Rim Interface, presented to Society of Automotive Engineers, Feb. 24-28, 1975. Indeed, no one has argued that Carlson himself, were he still working for Michelin, would have concluded in a report to his employer that a similar tire was similarly defective on grounds identical to those upon which he rested his conclusion here. Of course, Carlson himself claimed that his method was accurate, but, as we pointed out in *Joiner*, "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." 522 U.S. at 146.

Respondents additionally argue that the District Court too rigidly applied *Daubert*'s criteria. They read its opinion to hold that a failure to satisfy any one of those criteria automatically renders expert testimony inadmissible. The District Court's initial opinion might have been vulnerable to a form of this argument. There, the court, after rejecting respondents' claim that Carlson's testimony was "exempted from *Daubert*-style scrutiny" because it was "technical analysis" rather than "scientific evidence," simply added that "none of the four admissibility criteria outlined by the *Daubert* court are satisfied." 923 F. Supp. at 1522. Subsequently, however, the court granted respondents' motion for reconsideration. It then explicitly recognized that the relevant reliability inquiry "should be 'flexible,'" that its "'overarching subject [should be] . . . validity' and reliability," and that "*Daubert* was intended neither to be exhaustive nor to apply in every case." App. to Pet. for Cert. 4c (quoting *Daubert*, 509 U.S. at 594-595). And the court ultimately based its decision upon Carlson's failure to satisfy either *Daubert*'s factors *or any other* set of reasonable reliability criteria. In light of the record as developed by the parties, that conclusion was within the District Court's lawful discretion.

]In sum, Rule 702 grants the district judge the discretionary authority, reviewable for its abuse, to determine reliability in light of the particular facts and circumstances of the particular case. The District Court did not abuse its discretionary authority in this case. Hence, the judgment of the Court of Appeals is

Reversed.

CONCURBY: SCALIA

CONCUR:

JUSTICE SCALIA, with whom JUSTICE O'CONNOR and JUSTICE THOMAS join, concurring.

I join the opinion of the Court, which makes clear that the discretion it endorses- trial-court discretion in choosing the manner of testing expert reliability- is not discretion to abandon the gatekeeping function. I think it worth adding that it is not discretion to perform the function inadequately. Rather, it is discretion to choose among *reasonable* means of excluding expertise that is *fausse* and science that is junky. Though, as the Court makes clear today, the *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.

DISSENTBY: STEVENS (In Part)

DISSENT:

JUSTICE STEVENS, concurring in part and dissenting in part.

The only question that we granted certiorari to decide is whether a trial judge "may . . . consider the four factors set out by this Court in *Daubert* v. *Merrell Dow Pharmaceuticals, Inc.,* 509 U.S. 579, 125 L. Ed. 2d 469, 113 S. Ct. 2786 (1993), in a Rule 702 analysis of admissibility of an engineering expert's testimony." Pet. for Cert. i. That question is fully and correctly answered in Parts I and II of the Court's opinion, which I join.

Part III answers the quite different question whether the trial judge abused his discretion when he excluded the testimony of Dennis Carlson. Because a proper answer to that question requires a study of the record that can be performed more efficiently by the Court of Appeals than by the nine Members of this Court, I would remand the case to the Eleventh Circuit to perform that task. There are, of course, exceptions to most rules, but I firmly believe 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. See *General Electric Co.* v. *Joiner,* 522 U.S. 136, 150-151, 139 L. Ed. 2d 508, 118 S. Ct. 512 (1997) (STEVENS, J., concurring in part and dissenting in part).

Accordingly, while I do not feel qualified to disagree with the well-reasoned factual analysis in Part III of the Court's opinion, I do not join that Part, and I respectfully dissent from the Court's disposition of the case.

REFERENCES: Return To Full Text Opinion

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31A Am Jur 2d, Expert and Opinion Evidence 342; 63B Am Jur 2d, Products Liability 1852, 1871, 1873

USCS Court Rules, Federal Rules of Evidence, Rule 702

L Ed Digest, Evidence 641, 643

L Ed Index, Expert and Opinion Evidence; Products Liability; Rules of Evidence; Tires and Wheels

Annotation References:

Reliability of scientific technique and its acceptance within scientific community as affecting admissibility, at federal trial, of expert testimony as to result of test or study based on such technique--modern cases. 105 ALR Fed 299.

When will expert testimony "assist trier of fact" so as to be admissible at federal trial under Rule 702 of Federal Rules of Evidence. 75 ALR Fed 461.

Products liability: admissibility of expert or opinion evidence that product is or is not defective, dangerous, or unreasonably dangerous. 4 ALR4th 651.