PUBLISH

IN THE UNITED STATES COURT OF APPEALS

FOR THE ELEVENTH CIRCUIT

No. 96-6650

D. C. Docket No. 93-0860-CB-S

PATRICK CARMICHAEL, SR. an individual, father and next of kin to PATRICK CARMICHAEL, JR., a minor;
LUZIMINDA CARMICHAEL an individual, mother and next friend of CARINA HORN, a minor and administratrix of estates of JANICE HORN; CARINA HORN, a minor; LEONA CARMICHAEL, SHAMEELA CARMICHAEL, NATIMAH CARMICHAEL,

Plaintiffs-Appellants,

versus

SAMYANG TIRE, INC.; HERCULES TIRE COMPANY; KUHMO, U.S.A.; KUMHO & COMPANY, INC.,

Defendants-Appellees,

COOPER RUBBER AND TIRE COMPANY,
FORD MOTOR COMPANY,

Defendants.

Appeal from the United States District Court
for the Southern District of Alabama

(December 23, 1997)

Before BIRCH and CARNES, Circuit Judges, and PROPST*, Senior District Judge.

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*Honorable Robert B. Propst, Senior U.S. District Judge for the Northern District of Alabama, sitting by designation.

BIRCH, Circuit Judge:

In this appeal, we determine whether the Supreme Court's Daubert[1] criteria for admission of scientific evidence should apply to testimony from a tire failure expert. In granting summary judgment against plaintiff-appellants, the district court relied on Daubert to exclude testimony from plaintiff-appellants' expert. Plaintiff-appellants, however, argue that the district court should not have applied Daubert because their expert's proffered testimony is not "scientific." We REVERSE.

I. BACKGROUND

On July 6, 1993, plaintiff-appellants, eight members of the Carmichael family (collectively "the Carmichaels"), were involved in a serious automobile mishap when the right rear tire on their minivan failed. This occurrence resulted in significant trauma to each of the

[1]Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993).

Carmichaels; one member of the family ultimately died from her injuries. For the purposes of this appeal, the parties agree that the failure of a tire manufactured and sold by defendant-appellees (collectively "Samyang") directly caused the mishap.

Following the incident, the Carmichaels submitted the carcass of the failed tire to George Edwards, a purported expert on tire failure. After examining the tire, Edwards determined that its failure was not the result of any abuse by the Carmichaels. Therefore, Edwards concluded that a defect in either the tire's design or its manufacture caused the blowout. Before Edwards could be deposed by Samyang, however, he became too ill to testify and transferred the case to his employee, Dennis Carlson.[2] After

[2]Carlson holds a bachelor's and a master's degree in mechanical engineering from the Georgia Institute of Technology. Carlson worked from 1977 to 1987 as a research engineer for Michelin Americas Research & Development, where he was involved for the majority of his tenure in tire testing. Following that experience, Carlson became a senior project engineer at S.E.A., Inc., where he served from 1987 to 1994 as a tire failure consultant before becoming an employee of George R. Edwards, Inc. The District Court assumed for the purpose of its Daubert analysis that Carlson is qualified to testify as an expert in tire failure analysis. See Carmichael v. Samyang Tires, Inc., 923 F. Supp. 1514, 1518-19 (S.D. Ala. 1996). We, like the district court, assume that Carlson is an expert for the purposes of this appeal.

reviewing Edwards's file on the tire and discussing the case with Edwards, Carlson confirmed Edwards's conclusion that a design or manufacturing defect caused the blowout. Carlson, though, did not personally examine the tire until approximately one hour before his deposition by Samyang, long after he had rendered his opinion on the cause of the blowout. In his deposition, Carlson then set forth both his analytical process and his conclusion that the Carmichaels' tire was defective.

Before the district court, Samyang moved for the exclusion of Carlson's testimony on the ground that it could not satisfy Daubert's standards for reliability of scientific evidence. After reviewing Carlson's deposition, the district court agreed and excluded Carlson, writing that "none of the four admissibility criteria outlined by the Daubert court are satisfied in this case." Carmichael, 923 F. Supp. at 1521. Because the Carmichaels' only proffered evidence of a tire defect was Carlson's testimony, the district court then granted

summary judgment for Samyang. See id. at 1524. The Carmichaels now appeal the exclusion of their tire expert.

II. Discussion

In Daubert, the Supreme Court established several general criteria for the admission of scientific expert testimony under Federal Rule of Evidence 702.[3] See Daubert, 509 U.S. at 593-95, 113 S. Ct. at 2796-98.[4] Appealing the district court's exclusion of Carlson's testimony, the Carmichaels argue that the district court should not have applied Daubert's reliability framework because Carlson is not a "scientific" expert. In response, Samyang contends that Carlson's

[3]Rule 702 provides that "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."

[4]The Court suggested four primary inquiries for determining the reliability of a scientific theory or technique: (1) whether it has been tested; (2) whether it has been subject to peer review and publication; (3) its known or potential rate of error; and (4) whether it generally accepted by the relevant scientific community. However, the Court emphasized that "[t]he inquiry envisioned by Rule 702 is . . . a flexible one. Its overarching subject is the scientific validity—and thus the evidentiary relevance and reliability—of the principles that underlie a proposed submission." Daubert, 509 U.S. at 594-95, 113 S. Ct. at 2797.

testimony is based on an unreliable scientific analysis. We review the district court's legal decision to apply Daubert de novo, see Compton v. Subaru of Am., Inc., 82 F.3d 1513, 1517 (10th Cir.), cert. denied, __ U.S. __, 117 S. Ct. 611, 136 L. Ed. 2d 536 (1996), and its decision to exclude particular evidence under Daubert for abuse of discretion, see General Elec. Co. v. Joiner, __ U.S. __, __ S. Ct. __, __ L. Ed. 2d __, (1997).

Despite Samyang's protestations, "Daubert does not create a special analysis for answering questions about the admissibility of all expert testimony. Instead, it provides a method for evaluating the reliability of witnesses who claim scientific expertise." United States v. Sinclair, 74 F.3d 753, 757 (7th Cir. 1996). In fact, the Supreme Court in Daubert explicitly limited its holding to cover only the "scientific context." Daubert, 509 U.S. at 590 n.8, 113 S. Ct. at 2795 n.8; see also United States v. Cordoba, 104 F.3d 225, 230 (9th Cir. 1997) ("Daubert applies only to the admission of scientific testimony."); Compton, 82 F.3d at 1518 (same); Iacobelli Constr., Inc.

v. County of Monroe, 32 F.3d 19, 25 (2d Cir. 1994) (same).[5] Although the Court's analysis in Daubert may suggest reliability issues for district courts to consider as they determine whether proffered evidence is sufficiently reliable for admission under Rule 702, "the trial court's role as gatekeeper 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.'" United States v. 14.38 Acres of Land, 80 F.3d 1074, 1078 (5th Cir. 1996) (quoting Daubert, 509 U.S. at 596, 113 S. Ct. at 2798).

What, then, is the difference between scientific and non-scientific expert testimony? In short, a scientific expert is an expert who relies

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[5]Samyang's citations to United States v. Lee, 25 F.3d 999 (11th Cir.) (per curiam), for the contrary position are inapposite. In Lee, we examined whether a district court should apply Daubert's reliability factors to evidence produced by machines. Id. at 998. Because the results produced by the machines were "only admissible through the testimony of an expert witness," and because "courts do not distinguish between the standards controlling admission of evidence from experts and evidence from machines," we remanded for reconsideration in light of Daubert. Id. at 998-99. Nowhere in Lee did we imply that Daubert applied to non-scientific expert testimony.

on the application of scientific principles, rather than on skill- or experience-based observation, for the basis of his opinion. See Daubert, 509 U.S. at 590, 113 S. Ct. at 2795. As the Sixth Circuit explained in Berry v. City of Detroit:

> The distinction between scientific and non-scientific expert testimony is a critical one. By way of illustration, if one wanted to explain to a jury how a bumblebee is able to fly, an aeronautical engineer might be a helpful witness. Since flight principles have some universality, the expert could apply general principles to the case of the bumblebee. Conceivably, even if he had never seen a bumblebee, he still would be qualified to testify, as long as he was familiar with its component parts.
>
> On the other hand, if one wanted to prove that bumblebees always take off into the wind, a beekeeper with no scientific training at all would be an acceptable witness *if* a proper foundation were laid for his conclusions. The foundation would not relate to his formal training, but to his firsthand observations. In other words, the beekeeper does not know any more about flight principles than the jurors, but he has seen a lot more bumblebees than they have.

25 F.3d 1342, 1349-50 (6th Cir. 1994); see also Sorenson v. Robert B. Miller & Assoc., Inc., Nos. 95-5085, 95-5086, (applying Berry).[6]

[6]An analogy closer to the facts of the case would be the example of an auto mechanic and a burned-out spark plug discussed at oral argument. Given a proper foundation, a mechanic with years of experience with spark plugs might be able to identify for a jury

Thus, the question in this case is whether Carlson's testimony is based on his application of scientific principles or theories (which we should submit to a Daubert analysis) or on his utilization of personal experience and skill with failed tires (which we would usually expect a district court to allow a jury to evaluate). In other words, is the testimony at issue in this case more like that of a beekeeper applying his experience with bees or that of an aeronautical engineer applying his more generalized knowledge of the scientific principles of flight?

Having clarified the question posed by this case, it seems apparent to us that Carlson's testimony is non-scientific. Although Samyang is no doubt correct that the laws of physics and chemistry are implicated in the failure of the Carmichaels' tire, Carlson makes no pretense of basing his opinion on any scientific theory of physics

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burns or other marks on a spark plug that he believes disclose whether the plug burned out because normal wear or some defect; an experienced mechanic may recognize patterns of normal and abnormal wear on an auto part even though he has no knowledge of the general principles of physics or chemistry that might explain why or how a spark plug works. Such a mechanic's testimony would be non-scientific, while the testimony of another expert on the nature and effects of combustion (applied to spark plugs) would be scientific.

or chemistry.[7] Instead, Carlson rests his opinion on his experience in analyzing failed tires. After years of looking at the mangled carcasses of blown-out tires, Carlson claims that he can identify telltale markings revealing whether a tire failed because of abuse or defect.[8] 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. Indeed, Carlson asserts no knowledge of the physics or chemistry that might explain why the Carmichaels' tire failed. Thus, we conclude that Carlson's testimony falls outside the scope of Daubert and that the district court erred as a matter of law by applying Daubert in this case.

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[7]If Carlson or the Carmichaels' counsel were to assert or imply a "scientific" basis for Carlson's testimony at trial, after representing to the district court and to this court that Carlson's opinions are "non-scientific", then we are confident that the district court will be able to take appropriate remedial measures.

[8]We note that both Carlson and Samyang's expert rely on the same markings on the Carmichaels' tire for their analyses; the existence and relevance of these signs has not been questioned by either party before this court.

Still, the inapplicability of Daubert should not end the day regarding Carlson's reliability. Under Rule 702, it is the district court's duty to determine if Carlson's testimony is sufficiently reliable and relevant to assist a jury. See 14.38 Acres, 80 F.3d at 1078. Moreover, Carlson's testimony is subject to exclusion under Federal Rule of Evidence 403 if its probative value is substantially outweighed by its likely prejudicial effect.[9] Aside from its Daubert-related arguments, Samyang has presented this court with a number of potentially troubling criticisms of Carlson's alleged expertise and methodology, including his rendering of an opinion regarding the Carmichaels' tire before he had personally inspected its carcass.[10]

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[9]After analyzing Carlson's proffered testimony under Daubert, the district court concluded that "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 . . . ." See Carmichael, 923 F. Supp. at 1522. Even without requiring Carlson's testimony to satisfy the Daubert criteria on remand, the district court still may find that, under all the circumstances, Carlson's testimony is so unreliable as to be unhelpful to the jury. We do not intend our comments regarding Carlson's testimony or qualifications to constrain the district court's discretion to admit or exclude his testimony under the proper Rule 702 or Rule 403 standards.

[10]We note that many of Samyang's criticisms of Carlson may also apply to the qualification of Samyang's own tire failure expert. However, we leave such issues for the district court to consider on remand.

We leave judgments about such matters to the discretion of the district court on remand.

III. Conclusion

The district court erred as a matter of law in applying the Daubert criteria to the Carmichaels' proffered expert testimony. Therefore, we REVERSE and REMAND the case to the district court for further proceedings consistent with this opinion.