

Daubert Turning 20: Junk Science Replaced By Junk Rulings?

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INTRODUCTION

Near the end of the 20th century, the United States Supreme Court decided two landmark cases that dramatically changed 21st century litigation: *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993) and *Kumho Tire Co. v. Carmichael*, 526 U.S. 137 (1999). In practice, this pair of cases shifted the balance of power between judge and jury, plaintiff and defendant. In civil matters, these cases effectively increased the burden of proof without explicitly saying or even intending to do so. In criminal matters, these cases gave judges more power over the introduction or exclusion of exculpatory or incriminating expert evidence.

In a nutshell, *Daubert* articulated a flexible standard for admissibility of scientific opinion evidence in federal cases to ensure that expert scientific opinions are grounded in a reliable methodology. In *Kumho Tire*, the Court held that judges should also apply similar standards to non-scientific opinions.

This is now the admissibility standard for all expert testimony in federal courts. In 2000, Fed. R. Ev. 702 was amended to embrace the holdings of *Daubert* and *Kumho Tire*. This standard has also been adopted in many state courts.

In the way trial judges are now applying these two cases, one might surmise that the cases were a reaction to a perceived undesirable liberality with which courts were admitting expert testimony. *Daubert* in particular is commonly described as a bulwark against junk science in the courtroom,

causing many to think the Supreme Court must have been attempting to stamp out a permissive regime that allowed junk science to poison too many jury verdicts.

Daubert and *Kumho Tire* have thus acquired a reputation as the antidote to a perceived indulgence for phony opinions. Those who interpret these cases as imposing a high standard for admissibility point to language that the judge is a “gatekeeper,” and argue this means that the judge must thoroughly inspect all proposed expert opinions and allow in only those that, in the judge’s mind, meet a high standard of reliability. See, e.g., V. Schwartz & C. Silverman, The Draining of *Daubert* And The Recidivism Of Junk Science In Federal And State Courts, 35 Hofstra L. Rev. 217, 221-23 (2006), available at http://law.hofstra.edu/pdf/Academics/Journals/LawReview/lrv_issues_v35n01_DD4_Schwartz-Silverman_final.pdf. But was that what the Supreme Court intended?

THE PATH FROM METHODOLOGY TO MYTHOLOGY

Contrary to widely held beliefs, *Daubert*, authored by Justice Harry Blackmun, liberalized the standard for admitting scientific evidence.

What the Supreme Court did in *Daubert*

Daubert came to the Supreme Court after the lower court excluded the expert’s opinion because it flunked the “general acceptance” standard. The “general acceptance” standard, established in 1923 in *Frye v. United States*, 54 App. D.C. 46, 47, 293 F. 1013, 1014 (1923), held that admissible scientific evidence must be based on a scientific technique that is generally accepted as reliable in the relevant scientific community. In *Daubert*, the Court held that “general acceptance” was not a necessary precondition to admissibility of scientific evidence, and that such a rigid standard would be at odds with the rules’ liberal thrust and their general approach of relaxing the traditional barriers to opinion testimony. *Daubert*, 509 U.S. at 587.

Instead, the Court in *Daubert* adopted a more forgiving standard, one that looks to whether the testimony’s underlying reasoning or methodology is scientifically valid and can properly be applied to the facts at issue. The Court suggested various non-exhaustive factors that could be considered to assess scientific validity. Among them were whether the expert’s methodology has been tested, peer-reviewed, or published, what the known error rates are, whether the methodology had been generally accepted in the discipline, and whether there were any standards controlling the technique’s operation.

The Court pointed out that these factors were neither definitive nor a test for admissibility. *Id.* at 593. The Court cautioned that the inquiry is flexible, to be focused solely on principles and methodology, not on the conclusions they generate. *Id.* at 594-95. It emphasized that cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof, rather than wholesale exclusion under an uncompromising “general acceptance” standard, is the appropriate means by which evidence based on valid principles may be challenged. *Id.* at 595-96.

Beyond these contours, *Daubert* articulated no other standard by which the admissibility of scientific evidence is to be decided. Four years later, the Court decided *General Electric Co. v. Joiner*, 522 U.S.136 (1997), holding that abuse of discretion is the standard of review on an appeal from a decision to admit or exclude expert testimony. In so doing, the Court bypassed an opportunity to shape the way judges decide questions of admissibility.

What the Supreme Court did in *Kumho Tire*

The Court expressly limited *Daubert* to scientific testimony “because that is the nature of the expertise offered here.” *Id.* at 590 n.8. Six years later the Court decided *Kumho Tire* and addressed admissibility standards for testimony from engineers and other non-scientists whose opinions are based on technical or specialized, though not necessarily scientific, knowledge.

At issue was whether a tire safety engineer could opine that a tire blowout was caused by a defect as opposed to some other cause. In excluding the opinion, the district court assessed the engineer’s opinion against the factors mentioned in *Daubert* and found none to be satisfied. Later, the district court considered other, non-*Daubert* factors and still excluded the opinion. On direct appeal, the Eleventh Circuit reversed, holding that the *Daubert* factors applied solely to scientific opinions, and that the district court should not have applied them to an expert who was not a scientist and whose opinion was based on skill or experience-based observation.

The Supreme Court granted certiorari, reversed the Eleventh Circuit, and affirmed the trial court, holding that a trial judge may consider *Daubert*’s specific factors when determining the admissibility of an engineering expert’s testimony. *Kumho Tire*, 526 U.S. at 150. The Court reasoned that the rules do not distinguish between scientific and other expert testimony, that in some instances it may be difficult to do so, and that there is no need to develop special rules for scientific testimony. *Id.* at 147-49.

The Court also spent much discussion on the trial judge’s gatekeeping function, something mentioned only in passing in *Daubert*. Elaborating, the Court said that the *Daubert* factors – testing, peer review, error rates, and acceptability – do not constitute a definitive checklist or test and 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. *Id.* at 150.

***Daubert*’s Mythology**

Ask most judges and trial lawyers what words come to mind when they hear “*Daubert*” and there is a good chance they will respond “junk science” and “gatekeeper,” as if these were the most important or most memorable words from the opinion. These words have fed a popular mythology: namely, that *Daubert* was intended to turn judges into expert opinion vigilantes who would keep out all opinions that failed to get over a very high bar of reliability that the judge would set in her own discretion.

Many might be surprised to learn that *Daubert* never used the expression “junk science.” The closest it came was when it rejected an argument that it needed to retain the *Frye* rule in order to prevent “befuddled juries” from being “confounded by absurd and irrational pseudoscientific assertions.” *Daubert*, 509 U.S. at 595. The Court expressed confidence in “the capabilities of the jury, and of the adversary system generally,” and pointed out that a judge can always direct a verdict or grant summary judgment if a case rests on only a scintilla of evidence. *Id.* at 596.

And the reference to the judge as a gatekeeper appeared only three times, once in the body of the opinion, once in a footnote, and once in a separate opinion by Chief Justice Rehnquist, joined by Justice Stevens, concurring-in-part and dissenting-in-part.

The majority's reference to gatekeeping was in a paragraph responding to an argument from the petitioner and some amici, who urged an even more liberal standard than articulated by the Court, one that would make room for today's scientific hypothesis, on the theory that today's hypothesis could become tomorrow's scientific conclusion. *Id.* at 596-97. Responding to that argument, the Court said:

The scientific project is advanced by broad and wide-ranging consideration of a multitude of hypotheses, for those that are incorrect will eventually be shown to be so, and that in itself is an advance. Conjectures that are probably wrong are of little use, however, in the project of reaching a quick, final, and binding legal judgment—often of great consequence—about a particular set of events in the past. We recognize that in practice, a gatekeeping role for the judge, no matter how flexible, inevitably on occasion will prevent the jury from learning of authentic insights and innovations. That, nevertheless, is the balance that is struck by Rules of Evidence designed not for the exhaustive search for cosmic understanding but for the particularized resolution of legal disputes. (*Id.* at 597).

In other words, the Court merely noted that, when acting as a gatekeeper, a judge might “on occasion” end up excluding an opinion that time may prove to be scientifically sound because, at the moment, it is too early to tell.

In a footnote, *id.* at 589 n.7, the Court commented on the concurring/dissenting opinion, stating:

THE CHIEF JUSTICE “do[es] not doubt that Rule 702 confides to the judge some gatekeeping responsibility,” *post*, at 4, but would neither say how it does so, nor explain what that role entails. We believe the better course is to note the nature and source of the duty.

These were the only references to “gatekeeping” in the *Daubert* majority opinion.

In the concurring/dissenting opinion, Chief Justice Rehnquist said this, *id.* at 600-01:

I do not doubt that Rule 702 confides to the judge some gatekeeping responsibility in deciding questions of the admissibility of proffered expert testimony. But I do not think it imposes on them either the obligation or the authority to become amateur scientists in order to perform that role.

It is difficult to draw the inference from these three gatekeeping references that the Court wanted trial judges to ferret out all but the most reliable (in the judge's mind) expert testimony. If anything, such an inference would conflict with these other statements from the opinion (all internal quotation marks omitted):

- “. . . a rigid general acceptance requirement would be at odds with the liberal thrust of the Federal Rules and their general approach of relaxing the traditional barriers to opinion testimony.” *Id.* at 588.
- “Given the Rules’ permissive backdrop and their inclusion of a specific rule on expert testimony that does not mention general acceptance, the assertion that the Rules somehow assimilated *Frye* is unconvincing. *Frye* made general acceptance the exclusive test for admitting expert scientific testimony. That austere standard, absent from and incompatible with the Federal Rules of Evidence, should not be applied in federal trials.” *Id.* at 590.

- “. . . it would be unreasonable to conclude that the subject of scientific testimony must be known to a certainty; arguably, there are no certainties in science.” *Id.* at 590.
- “Unlike an ordinary witness, see Rule 701, an expert is permitted wide latitude to offer opinions, including those that are not based on first-hand knowledge or observation.” *Id.* at 592.
- “The focus [of a judge’s inquiry in determining admissibility of a scientific opinion], of course, must be solely on principles and methodology, not on the conclusions that they generate.” *Id.* at 595.
- “Respondent expresses 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 this regard respondent seems to us to be 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. *Id.* at 595-96.

To be sure, the Court recognized there are “limits on the admissibility of purportedly scientific evidence” and that the trial judge is not “disabled from screening such evidence.” *Id.* at 589. But the holding of the opinion, and its overall reasoning and emphasis, evinces a predisposition toward liberality in the admissibility of scientific opinions and to let the jury figure out if the opinion should be believed.

Kumho Tire’s Attention To “Gatekeeping”

In contrast to *Daubert*, *Kumho Tire* referred to something akin to the expression “junk science,” but not in the majority opinion. It appeared in Justice Scalia’s concurring opinion and only once. Referring to the trial judge’s discretion to choose the “manner of testing expert reliability,” Justice Scalia said that a judge has “discretion to choose among *reasonable* means of excluding expertise that is *fausse* and science that is junky.” *Kumho Tire*, 526 U.S. at 159 (emphasis in opinion). In all of *Daubert* and *Kumho Tire*, there is no other reference to any concern about “junk science.”

Kumho Tire used the term “gatekeeper” or “gatekeeping” eight times in the majority opinion, once in Justice Scalia’s concurring opinion, and not at all in a concurring opinion by Justice Stevens. The first two parts of the majority’s opinion, those that dealt with gatekeeping, focused primarily on process. The narrow issue was whether, in determining the admissibility of an engineer’s non-scientific opinion, a trial judge may consider the factors mentioned in *Daubert*. In the first part of the opinion, the Court explained that the gatekeeping function mentioned in *Daubert* applies to all expert testimony, not just scientific testimony. Although the opinion goes on at length to explain why this is so, no party contested the point. *Id.* at 147. In explaining its reasons, the Court cited the language of the rule and the difficulty of distinguishing between scientific and non-scientific expert testimony. *Id.* at 147-49.

In the second part of the opinion, the Court held that the *Daubert* factors may be considered in assessing the admissibility of opinions from engineers: “Emphasizing the word ‘may’ in the question, we answer that question yes.” *Id.* at 150. However, the Court emphasized that, depending on the circumstances, the *Daubert* factors might not be appropriate, even when considering scientific opinions:

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. . . . Indeed, those factors do not all necessarily apply even in every instance in which the reliability of scientific testimony is challenged. (*Id.* at 150-51).

Essentially, the Court expressed a preference neither for nor against the application of the *Daubert* factors in any particular case. The Court also pointed out that the trial judge has discretion in selecting the appropriate process for determining an opinion's admissibility, including whether to require "special briefing or other proceedings" or to dispense with such proceedings altogether "in ordinary cases where the reliability of an expert's methods is properly taken for granted." *Id.* at 152.

In the third part of the opinion, though not called for by the certiorari petition, the Court assessed whether the trial judge abused his discretion in excluding the engineer's opinion. It answered that question in the negative. Justice Stevens, in a partial dissent, pointed out that resolving that question was unnecessary and unfair to the litigants, as it was not within the scope of the certiorari petition. *Id.* at 159.

Kumho Tire, like *Daubert*, lacks any language creating narrow channels or high bars for expert testimony. At no point did the Court express any concern that trial judges were allowing juries to hear too many unreliable opinions or that the standard for admitting opinion testimony had been tightened or even needed tightening. Nor did the Court express any view that opinions rooted in science are presumptively more reliable or admissible than, or preferable to, those rooted in experience. The Court acknowledged that "expertise . . . based purely on experience, say, a perfume tester able to distinguish among 140 odors at a sniff," can be just as acceptable as a scientific opinion. *Id.* at 151. The Court offered this simple explanation of the gatekeeping function: "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." *Id.* at 152.

***Daubert* and *Kumho Tire*'s Transformation From Mythology To Gospel**

Though *Daubert* was intended to eliminate a high bar to the introduction of scientific evidence and substitute a more forgiving, more liberal standard, and though *Kumho Tire* was intended simply to let judges know they can, in some cases, use the *Daubert* factors to assess the admissibility of non-scientific evidence, these two cases seem to have taken on an unusual life. In a triumph of mythology over accuracy, the retelling of the story of these cases has assigned them a different and unintended meaning that people seem to accept on faith: that *Daubert* was meant to keep junk science out of the courtroom, that the only way to do that would be for judges to scrutinize scientific opinions strictly and apply a high bar, and that *Kumho Tire* was meant to apply the same high level of rigidity to non-scientific opinions as well.

Four years after *Daubert* was decided, Justice Stevens tried to debug this view when he said:

An example of "junk science" that should be excluded under *Daubert* as too unreliable would be the testimony of a phrenologist who would purport to prove a defendant's future dangerousness based on the contours of the defendant's skull.

General Electric Co. v. Joiner, 522 U.S.136, 153 n.6 (1997) (Stevens, J.) (concurring in part and dissenting in part).

Still, a stroll through the internet shows that, in popular belief, *Daubert* has become synonymous with the anti junk science theory of admissibility in which all opinion testimony of a scientific, technical, or social scientific nature is subject to strict scrutiny and must get over a very high bar, even though neither *Daubert* nor *Kumho Tire* says so. A representative sampling of this view of *Daubert* includes:

- V. Schwartz & C. Silverman, *The Draining of Daubert And The Recidivism Of Junk Science In Federal And State Courts*, 35 Hofstra L. Rev. 217, 221 (2006), in which the authors construe *Daubert* as having mandated the application of “a strong and careful judicial gatekeeper function” and argue that *Daubert* was intended to make it more difficult to introduce expert evidence in order to keep junk science out of the courtroom.
- T. Gutheil & H. Bursztajn, *Attorney Abuses of Daubert Hearings: Junk Science, Junk Law, Or Just Plain Obstruction*, available at <http://www.jaapl.org/content/33/2/150.full>, in which the authors describe *Daubert* as “focus[ing] attention on the problem of ‘junk science’ testimony in the courtroom” and as part of “attempts by the judiciary, among other goals, to raise the level of expert testimony available to the legal system and to decrease the perceived problem of ‘junk science’ testimony.”
- Definition of “*Daubert Test*,” appearing at <http://legal-dictionary.thefreedictionary.com/Daubert+Test>, in which the statement is made that *Daubert* “imposed a gatekeeping function on trial judges by charging them with preventing ‘junk science’ from entering the courtroom as evidence.”
- “Most of the state trial court judges surveyed believed that a purpose of *Daubert* is to guard against junk science.” C. Welch, *Flexible Standards, Deferential Review: Daubert’s Legacy Of Confusion*, 29 Harvard J. Of Law & Public Policy 1085, 1101, available at http://www.law.harvard.edu/students/orgs/jlpp/Vol29_No3_Welch.pdf.
- “*Daubert* is a stringent test requiring strict scrutiny of proffered expert testimony” and *Daubert* was part of a three case trilogy that “dramatically tightened the rules for the admissibility of expert evidence in federal courts” to “crackdown on ‘junk’ expert testimony in federal courts.” D. Bernstein, *Disinterested in Daubert: State Courts Lag Behind In Opposing ‘Junk’ Science*, Legal Opinion Letter of the Washington Legal Foundation (June 21, 2002), available at <http://www.wlf.org/upload/6-21-02Bernstein.pdf>.

This may well be a public relations triumph of sorts. Before *Daubert*, an aspect of tort reform was a movement to raise the bar on expert testimony. If the bar could be raised, then it stood to reason that the frequency and size of tort verdicts would be reduced. Those who sought this result argued there was a problem with “junk science” in the courtroom and blamed this problem for allegedly unjust jury verdicts and other social ills. See generally R. Epstein, *A New Regime For Expert Witnesses*, 26 Valparaiso L. Rev. 757 (1992), available at <http://scholar.valpo.edu/vulr/vol26/iss3/5>; P. Huber, *Junk Science In The Courtroom*, 26 Valparaiso L. Rev. 723 (1992) available at <http://scholar.valpo.edu/vulr/vol26/iss3/4>. See also V. Schwartz & C. Silverman, *The Draining of Daubert And The Recidivism Of Junk Science In Federal And State Courts*, 35 Hofstra L. Rev. 217, 224 (2006) (“It is not a coincidence that

Daubert coincided with the emergence of toxic torts and the burgeoning use of experts in civil litigation.”). The exclusion of “junk science,” therefore, became a handle on which to mount a campaign for tougher admissibility standards.

When *Daubert* was decided, “all parties and amici claimed victory and satisfaction with the decision.” C. Welch, *Flexible Standards, Deferential Review: Daubert’s Legacy Of Confusion*, 29 Harvard J. Law & Public Policy 1085, 1091 (2006), appearing at http://www.law.harvard.edu/students/orgs/jlpp/Vol29_No3_Welch.pdf. The Court’s rejection of the *Frye* standard as a requirement for scientific evidence and the Court’s emphasis on the liberal thrust of the rules of evidence gave reason for celebration to those who had an interest in expert opinion reaching the jury. But the Court’s failure to embrace any clear standard for admissibility, and the Court’s acknowledgement that judges need to apply *some* reliability standard, allowed those who sought to raise the bar on expert testimony to claim that the ruling was a response to the junk science problem.

Kumho Tire gave the tort reform movement more grist to claim that the standards for opinion admissibility were now higher. Although the Court neglected to articulate any particular standard for admissibility, the fact that the Court extended *Daubert*’s reasoning to non-scientific opinions meant – in the eyes of those who previously characterized *Daubert* as raising the bar on admissibility – that the bar had just been raised on non-scientific opinions as well. The Court’s use of the neutral term “gatekeeper” was deemed to be further evidence of the Court’s intent to raise the bar, as if the job description of a “gatekeeper” is to shut the gate, overlooking that gatekeepers open gates as well.

Needless to say, those who had an interest in characterizing *Daubert* and *Kumho Tire* as imposing strict admissibility standards on all expert testimony were diligent in advancing that view, and their diligence seems to have gotten more air time than the views of those who see those decisions differently.

DAUBERT’S AND KUMHO TIRE’S TUMULTUOUS WAKE

With *Daubert* and *Kumho Tire* taking hold in the judicial psyche as some type of mandate to apply strict scrutiny to all forms of expert opinion, how has opinion testimony fared? The sad answer is: not as well as the Supreme Court undoubtedly had in mind when it attempted in *Daubert* to liberalize the standard for scientific testimony. The examples below illustrate.

Mamah

In *United States v. Mamah*, 332 F.3d 475 (7th Cir. 2003), a Ghanaian immigrant was convicted on a drug charge based on a confession that the defendant claimed was false. The defendant claimed the FBI threatened him with life imprisonment and that he would never see his children unless he confessed. To support his false confession defense, the defendant offered testimony from two experts, a sociologist and an anthropologist, to the effect that the defendant’s experience in Ghana, living under a repressive military regime and where he had been beaten in an interrogation, made him more susceptible to giving false confessions. The anthropologist had studied how Ghanians are prone to give false confessions when interrogated by authority figures. The sociologist was an expert in the phenomenon of false confessions.

The judge excluded the expert testimony because neither of the experts were “psychologist[s] qualified to assess Mamah’s susceptibility to the interrogation techniques used by the FBI agents.” *Id.* at 476. The judge felt the defendant had been living in the United States long enough to know the difference between Ghanaian and American interrogation techniques, *id.*, and that the

anthropologist's opinion was unreliable because it did not rest on studies of false confessions given by Ghanaian expatriates who had lived in the United States for more than ten years. *Id.* at 478. The judge also felt that, unless the FBI's interrogation techniques were similar to those the defendant had experienced in Ghana, the testimony was irrelevant, *id.* at 477, and that the sociologist could not offer an opinion unless he had studied the propensity of an individual who had been subjected to coercive interrogation on one occasion to give a false confession later when the interrogation techniques were not coercive. *Id.* at 478. The Seventh Circuit affirmed the decision to exclude the evidence for the reasons given by the judge.

Consider how impossibly high the trial judge and Seventh Circuit set the bar. The defendant had been beaten in a past interrogation, was being interrogated again, and, according to him, had been threatened with life in prison and never seeing his children unless he confessed. While it is plausible to believe, as the trial and appellate judges did, that the defendant had been living here long enough to know he would not be beaten, it is also plausible to believe that the intimidating circumstances of his interrogation, coupled with his past interrogation experience in a repressive military regime, could have been enough to scare him into giving a false confession. This was his defense. It was a defense that was almost certain to fail absent expert testimony.

Yet his jury was never permitted to hear from those experts because the judges believed he needed an expert who had studied others just like the person the defendant claimed to be: Ghanaian expatriates living in the United States for more than 10 years who had been previously exposed to physically coercive interrogation techniques and who later gave false confessions when exposed to non-physically coercive techniques. How likely is it that such a sample set existed? If such a set existed, how likely is it a researcher could have found it? And if it could have been found, how likely is it anyone actually would have done such studies on such a peculiarly defined sample set?

The judges used a common qualification technique to disqualify the testimony: category definition. When the category of relevance is defined more narrowly, it becomes less likely anyone or anything will qualify to be in it. Specialists on false confessions and on the propensity to give false confessions to authority figures after being exposed to coercive interrogations in repressive military regimes would, on the facts of this case, almost certainly appear to be relevant in a Rule 401 sense, where relevance is defined as that which has “*any* tendency to make the existence of *any* fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence.” (emphasis added) In *Daubert*, the Court said: “The Rule's basic standard of relevance thus is a liberal one.”

But by defining the category of relevance more narrowly – limiting it to those who have studied persons having the defendant's specific unusual experience – the trial and appellate judges ensured that the jury would never hear from the defense experts about circumstances that could move a suspect to give a false confession. Wouldn't the better approach have been to let the jury hear the evidence, let the government cross-examine that evidence and present contrary expert evidence, and let the jury decide how much weight to give it? Wouldn't that have been more consistent with the liberal thrust of the rules of evidence and with *Daubert's* admonition of faith in the jury and adversary system? In this criminal case, the defendant would have won if he had raised a reasonable doubt about the voluntariness of his confession. But in defining the category of expert relevance so narrowly, just a notch or two above the expertise of the defendant's experts, the trial and appellate judges created an inappropriate high bar to the introduction of evidence that could have produced reasonable doubt and an acquittal.

Jodoin

A civil counterpart to *Mamah* is *Jodoin v. Toyota Motor Corp.*, 284 F.3d 272 (1st Cir. 2002), where the trial judge excluded an opinion from plaintiff's expert that the defendant's truck was defective because it was prone to rolling over. The judge excluded the opinion because the expert based it on a test of an exemplar vehicle that the plaintiff had not shown was "virtually identical" to the vehicle in the accident, given that a number of years had passed between the time the two vehicles were made and the time of the accident. *Id.* at 275. The judge felt it was not enough that the exemplar vehicle was the same make, model, and year of the accident vehicle. Rather, the judge felt that a proper exemplar would have had needed a "virtually identical" history as the accident vehicle, presumably including such things as repairs, wear and tear, and prior accidents. *Id.* Although the expert testified that he examined everything he "thought ... would be related to the vehicle dynamics and the issues that [he] was evaluating," *id.*, the judge still excluded the opinion for a lack of showing that the exemplar vehicle was virtually identical to the accident vehicle.

This is another example of defining the category of relevance to exclude an expert's opinion. In the judge's mind, the relevant category as a basis for comparison was not "same make, model, and year," but rather "virtually identical history," a higher bar that presumes no evidence of relevance could be obtained from an examination of a vehicle having the same make, model, and year unless its history was virtually identical to the vehicle in the accident.

Quite properly, the First Circuit vacated the judgment and held that the expert should have been permitted to testify, noting that the correct standard of admissibility was not virtual identity but rather only whether "the relevant elements are sufficiently similar" to afford a basis for comparison. *Id.* at 280. The trial judge had set too high a bar by defining the category of relevance too narrowly. The First Circuit lowered the bar in recognition of the fact that relevant evidence need not depend on virtual identity. The Court "further emphasize[d] that other differences are for defendants to highlight and the jury to weigh in its deliberations." *Id.*

Frazier

A common *Daubert* problem occurs when judges measure knowledge-based or experience-based expertise against scientific standards, which can result in exclusion of the proffered opinion to the detriment of civil plaintiffs and criminal defendants. Rule 702 (a) specifically allows opinion testimony based on an expert's knowledge or experience, as distinguished from skill, training, or education.

Nothing in this amendment [to Rule 702] is intended to suggest that experience alone—or experience in conjunction with other knowledge, skill, training or education—may not provide a sufficient foundation for expert testimony. To the contrary, the text of Rule 702 expressly contemplates that an expert may be qualified on the basis of experience. In certain fields, experience is the predominant, if not sole, basis for a great deal of reliable expert testimony.

Committee Notes On Rules – 2000 Amendment To Fed. R. Ev. 702. However, a number of trial judges seek to hold experiential expertise to scientific standards, which do not aptly fit, and end up excluding the proffered opinion, often with little corrective intervention at the appellate level.

A case in point is *United States v. Frazier*, 387 F. 3d 1244 (11th Cir. 2004), a 49 page en banc decision that included two concurring opinions and a dissent. At issue was the admissibility of an opinion by an investigator to the effect that there was no forensic evidence to corroborate the alleged victim's claim she had been raped and that this was not to be expected if such an event had occurred. The alleged victim claimed she had been subject to a dozen violent sexual acts in her car. All parties conceded that the evidence collection from the car, the alleged victim, and the alleged victim's clothing was thorough, timely, and properly performed. No hairs or seminal fluid from the defendant were found. The defendant denied any sexual contact and contended that the alleged victim made up the story to avoid being punished by her parents for staying out late.

Defendant's expert would have testified, based on his experience including working on 150-250 sexual assault cases, that in crimes of the type claimed by the alleged victim, one would expect to find some hair or seminal fluid from the defendant on the victim's person or clothing or in the car, and that the absence of such hairs or fluids meant there was no forensic evidence to corroborate that a rape had occurred. The trial judge excluded the opinion because the expert had no scientific evidence or study indicating the percentage frequency in which a defendant's hairs or seminal fluid are found in these types of occurrences. *Id.* at 1255. The judge then allowed two government witnesses to testify that the absence of a defendant's hair or seminal fluid did not mean that no sexual contact took place. *Id.* at 1257-58.

The defendant was convicted and sentenced to life in prison under a three-strike statute. A divided three judge panel reversed the conviction, holding that the district court abused its discretion by erroneously requiring scientific evidence as a prerequisite to the expert's testimony. See *United States V. Frazier*, 322F.3d 1262 (11th Cir. 2003).

On en banc review, the Eleventh Circuit reinstated the conviction, based on applying scientific standards of reliability to what was essentially an experience-based opinion. Though the expert's qualifications were not in dispute, the panel characterized the expert's opinion as expressing "an intrinsically probabilistic or quantitative idea," *id.* at 1265, and that:

Without knowing how frequently hair or seminal fluid is transferred during sexual conduct in similar cases – whether derived from reliable studies or based on some quantification derived from his own experience – it would be very difficult indeed for the district court (or for that matter the jury) to make even an informed assessment, let alone to verify that the recovery of hair or fluid evidence in this case "would be expected." Nor could the district court tell from Tressel's testimony whether his opinions had been subjected to peer review or, even, the percentage of cases in which his opinion had been erroneous. Simply put, Tressel did not offer any hard information concerning the rates of transfer of hair or fluids during sexual conduct. (*Id.*)

In a stinging and lengthy dissent, Judge Birch criticized the majority's insistence on requiring scientific support for what was, at bottom, an experience-based opinion, not dissimilar from many opinions commonly deemed admissible and appropriate. Judge Birch cited *United States v. Brown*, 7 F.3d 648 (7th Cir. 1993), as an example of a case in which an expert was permitted to testify, based on experience, that a defendant intended to distribute cocaine, rather than use it for personal use, because of paraphernalia and behaviors typically associated with distributors that are different from those associated with mere users. After citing this and other examples of opinions held admissible based on experience and knowledge without any supporting empirical data, Judge Birch summarized his conclusion:

What physician, for example, would be laughed out of a medical conference for asserting without supporting statistical data that he would expect the cause of classic flu-like

symptoms to be, of all things, the flu? Yet, this is precisely what the district court did in response to Mr. Tressel's testimony based on the rather uncontroversial assumption in his field that an experienced forensic investigator would expect to find hair or semen transfer in a sexual assault of prolonged duration in cramped quarters where, as here, evidence was gathered from an uncontaminated and confined crime scene. This ruling – requiring an experience-based expert to substantiate his conclusions with scientific data or studies – was an abuse of discretion. (*Id.* at 1300).

A comparison of *Frazier* to *Brown* leaves troubling questions: Why should a qualified government witness be allowed to offer an experience-based opinion that cocaine distributors typically are associated with certain types of paraphernalia and behaviors, while a qualified defense witness is not allowed to offer an experienced-based opinion that rapists typically leave hairs or seminal fluids on their victim or at the scene of the crime. Why is empirical data excused in the first instance but required in the second? Why should a defendant who denies his guilt risk life in prison because he lacks empirical data to support his expert's experience-based opinion when the absence of empirical data does not bar the government's expert from offering experience-based testimony to convict a defendant? Is there is a de facto double standard, where opinions offered by the government are treated more indulgently than those offered by a criminal defendant?

Stevenson

Another example of the type of indulgence given to government experts can be found in *Stevenson v. Texas*, 304 S.W.3d 603 (Tex. Ct. App. 2010), where a forensic video analyst was allowed to narrate and characterize what was depicted in a shadowy video of a convenience store robbery, based on experience in interpreting video images. The expert was permitted to testify, for example, that a particular shadowy image was money, that another one was a gun, and that the man holding the gun was over 5'8" probably by several inches. *Id.* at 610. His technique was simply to watch the video repetitively until he figured out what the shadowy images were. *Id.* at 621-22. One wonders whether a similar defense expert, looking at the same shadowy ambiguous images, would have been permitted to testify that the alleged gun was a wallet and that the alleged money was a candy bar or pack of cigarettes.

Walker

These *Daubert* issues are not confined to criminal cases. In *Walker v. Soo Line RR*, 208 F.3d 581 (7th Cir. 2000), a plaintiff sued for injuries sustained allegedly on account of a lightning strike while working in a railroad tower. The defendant was asserted to be liable for improperly protecting the tower from lightning strikes. There was a disputed factual issue over whether lightning struck the tower directly, entered the tower through a strike elsewhere in the yard, or even struck the yard at all. The trial judge excluded an electrical safety expert from offering an opinion to the effect that lightning could have penetrated the tower in one of three ways. The expert conceded that he could not opine on whether lightning struck the tower at all or whether it struck the railroad yard or even, had it struck in the area, whether it would have injured the plaintiff. At most, he could only identify three paths to the tower that lightning might have traveled if it had hit the area. The judge barred the expert from testifying on the ground his opinion was too speculative.

Fortunately for the plaintiff, the Seventh Circuit reversed and remanded, holding that the judge erred in excluding the expert's testimony. Despite the limited utility of the expert's opinion, the Seventh Circuit noted that the jury would have been aided in learning the different ways the tower

might have been struck, if it had been struck at all. The Court's identification of aid-to-the-jury as a reason for reversal was important, because Rule 401 makes testimony relevant if it is of consequence to the action and if it has any tendency to make the fact more or less probable than without the evidence. As the Advisory Committee Notes on Rule 401 state: "The fact to be proved may be ultimate, intermediate, or evidentiary; it matters not, so long as it is of consequence in the determination of the action." Thus, the fact that the expert could not opine on whether lightning hit the tower or even in the area, as the Seventh Circuit noted, did not render the opinion inadmissible: the jury could have considered that opinion, in conjunction with eyewitness testimony or meteorological evidence, to resolve the factual dispute whether lightning had penetrated the tower. The Seventh Circuit also correctly noted that an expert's opinion need not posit only one model to explain the conclusion. Alternate models may be offered. *Id.* at 589-90.

CONCLUSION

Sadly the above examples are not anomalies. In the two decades following *Daubert*, the judicial landscape has been littered with inconsistent and poorly reasoned decisions admitting or excluding expert testimony. Part of the problem stems from *Daubert's* statement that the inquiry on admissibility is flexible. Part of the problem stems from the misperception that *Daubert* raised the bar on admissibility; that it did so to insulate courtrooms from junk science; and that *Kumho Tire* extended this same heightened standard to all expert testimony. Part of the problem stems from the Supreme Court's decision in *General Electric* that appellate judges should review admissibility determinations under an abuse of discretion standard.

The combination of these factors has created a regime where admissibility determinations are difficult to predict, where they vary from court to court and judge to judge, where a judge will either exclude an opinion that deserves to be considered by the jury or allow a jury to hear an opinion that has no business being in a courtroom, and where the prospects for obtaining relief on appeal are limited. To be sure, there are many instances in which the admissibility decision is correct. But this is cold comfort for those who are turned out of court, or convicted and imprisoned, because a judge has applied a needlessly high or excessively low bar when determining the admissibility of an opinion.

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