ADMISSIBILITY OF EXPERT TESTIMONY
MANAGEABLE GUIDANCE FOR JUDICIAL GATEKEEPING

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Foreword
The Honorable Paul S. Grewal
United States Magistrate Judge (ret.)
Vice President and Deputy General Counsel
Facebook, Inc.

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FOREWORD

By

The Honorable Paul S. Grewal¹
United States Magistrate Judge (ret.)
Vice President and Deputy General Counsel
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If you ever find yourself within ear shot of a federal judge talking about jury trials, you’ll inevitably hear praise. Praise for the jurors themselves. Praise for the increasingly rare lawyers with real trial experience. And most of all, praise for the jury system itself, including the Seventh Amendment to our Constitution that enshrines that system. No judge I’ve ever met—and as a former federal magistrate judge myself, I’ve met more than a few—ever has much to say about jury trials that is less than glowing.

It is all praise that is well-deserved. The American jury system has much to be said for it. Every day across this country, ordinary citizens come to courthouses grand and not so grand to exercise directly one of the most basic powers of any sovereign government. Once sworn, these citizens become jurors, trusted with the power of the state to sit in judgment of disputes among their fellow Americans. They do so as complete equals, no matters their status or position outside the courthouse.

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Sitting in the federal courthouse in Silicon Valley day in and day out, I saw billionaires and bus drivers, politicians and paupers, all seated in the same box with the same single vote. People from every walk of life imaginable were charged with deciding the same fundamental question no matter the case: what happened? When the car hit the truck in the middle of intersection, was the light red or green? When the investment banker disclosed confidential information to a family member, was it intentional or accidental? When the employer turned away the job applicant, was it because of her limited qualifications or because of her race?

We trust jurors with these questions for all kinds of reasons. Legitimacy. Efficiency. Fairness. The collective wisdom of a crowd of peers. At the heart of these justifications, and others, is a strong sense that when it comes to evaluating evidence, jurors are as good, and often better, than any single judge or even panel of judges. This is our sense whether the evidence is in the form of a victim testifying about her ordeal, an email describing a corporate decision to launch a new product, or a grainy picture taken by a security camera in the middle of the night. I tried many jury cases as a judge. And I learned from that experience that the Framers’ instinct about the jurors and their superior ability to evaluate fact evidence is as correct today as it was almost 230 years ago.

But fact evidence is one thing. Evidence in the form of expert testimony is quite another. Think of a professor testifying about the operation of a microprocessor or a medical doctor explaining the standard of care against which a reasonable pediatrician should be measured. Over the course of presiding over jury trials involving patent infringement, wage and hour claims, employment discrimination—you name it—I developed an increasingly nagging sense that expert testimony often clouded, rather than clarified, the questions the jurors were asked to decide.
This wasn’t rank speculation on my part. It was the direct result of conversation after conversation I would have with jurors after the trial ended. In the quiet of the jury room, I would invite discharged jurors to stick around and talk. I would talk about the court system, sometimes answer a question or two about my background, and explain more about the different individuals whom the jurors interacted with. My former deputy Oscar would always draw praise for adding cookies to the lunch order or feeding a juror’s parking meter when it was running low. I would consistently draw questions about how one becomes a judge, whether I enjoyed the work as much as it appeared, and so on.

In turn, I would ask juror questions of my own. What could I do to improve the experience for jurors next time? Did the lawyers make a difference or did the evidence speak for itself? And most interestingly, at least to me anyway, whenever an expert had testified, I would ask questions about the subject matter of the testimony that any reasonable person should’ve been able to answer if they were paying even slight attention. And the truth was that in far too many instances, when presented with my little quiz, individual jurors failed miserably. I took this not as an indictment of any individual juror, who of course had tried her best and of course was only there out of civic duty (and I suppose, threat of contempt for not showing up). I took this as an indictment of myself, who as the presiding judge anointed as the “gatekeeper” by the United States Supreme Court, was charged under our rules of procedure and evidence with protecting the integrity of the trial. If jurors could not answer these basic questions, I wondered, just how reliable was expert testimony to begin with?

Fortunately, trial judges, like the lawyers appearing before them, need not entirely despair. In a series of seminal decisions, the Supreme Court has set out important guidance for judges and lawyers alike to ensure that expert

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testimony is reliable testimony. In the pages that follow, leading practitioners explain this guidance and bring much needed clarity to standards that are often complex while appearing deceptively simply. What exactly does it mean for a witness to be “qualified as an expert by knowledge, skill, experience, training, or education,” as Rule 702 of the Federal Rules of Evidence requires? How should trial judges assess the reliability of proposed testimony in scientific fields in which they have no formal training? These and related questions lie at the core of the gatekeeping responsibility of the trial judge. This Monograph ably provides important answers.
ADMISSIBILITY OF EXPERT TESTIMONY: MANAGEABLE GUIDANCE FOR JUDICIAL GATEKEEPING

INTRODUCTION

For most of the twentieth century, the admissibility of scientific expert testimony was governed by the standard articulated in *Frye v. United States*.\(^1\) Under that standard, such testimony was admissible only if it was based on principles that had gained “general acceptance” in the relevant discipline.\(^2\) Seventy years after *Frye*’s birth, the Supreme Court rang its death knell in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*\(^3\) The Court held in *Daubert* that Rule 702 of the Federal Rules of Evidence, adopted in 1975, displaced *Frye*.\(^4\) The then-extant version of Rule 702 provided that “[i]f 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.”\(^5\)

Critically, however, the Court emphasized that, although the Rules of Evidence superseded the *Frye* test, that “does not mean ... that the Rules themselves place no limits on the admissibility of purportedly scientific testimony. ... To the contrary, under the Rules the trial judge must ensure that any and all scientific testimony or

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\(^1\) 293 F. 1013 (D.C. Cir. 1923).
\(^2\) *Id.* at 1014.
\(^3\) 509 U.S. 579 (1993).
\(^4\) *Id.* at 587-89.
\(^5\) *Id.* at 588 (internal quotation marks omitted).
evidence admitted is not only relevant, but reliable.”6 In particular, Rule 702’s “requirement that an expert’s testimony pertain to ‘scientific knowledge’ establishes a standard of evidentiary reliability.”7 The Court further explained that Rule 702’s requirement that the testimony “assist the trier of fact to understand the evidence or to determine a fact in issue” means that the testimony must be “sufficiently tied to the facts of the case that it will aid the jury in resolving a factual dispute.”8 Put another way, “Rule 702’s ‘helpfulness’ standard requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility.”9 In short, the Court explained, “[f]aced with a proffer of expert scientific testimony,” federal trial courts must make “a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue.”10

The Supreme Court thus made clear its understanding and expectation that federal courts must serve as “gatekeeper[s]”11 to ensure that juries are shielded from what Justice Scalia subsequently characterized as “expertise that is fausse and science that is junky.”12 The objective of this Monograph is to provide courts with manageable guidance for the performance of this important function. The Monograph contains two parts. First, it discusses critical gatekeeping issues that arise across the spectrum of

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6 Id. at 589 (footnote omitted).
7 Id. at 590.
8 Id. at 591 (internal quotation marks omitted).
9 Id. at 591-92.
10 Id. at 592-93.
11 Id. at 597.
litigation. Second, it uses four specific contexts—medical causation, insurance bad-faith litigation, class actions, and valuation and damages—to illustrate the principles discussed in the first part.

I. CROSS-CUTTING ISSUES

This part of the Monograph discusses four aspects of the gatekeeping function that cut across substantive areas of law: (i) the scope of the Daubert gatekeeping role; (ii) the problem of result-oriented expert testimony; (iii) the murky line between weight and admissibility; and (iv) judicial tools for weeding out “expertise that is fausse and science that is junky.”

A. The Scope of the Daubert Gatekeeping Function

Parties to complex, technical litigation must rely on expert witnesses to explain the significance of scientific and technical evidence to juries. Experts are given wide latitude to do this.\(^\text{13}\) They are not constrained by personal knowledge or first-hand observation.\(^\text{14}\) They can rely on evidence that is otherwise inadmissible, including hearsay.\(^\text{15}\) And they are even permitted to testify to the ultimate issue the jury is tasked with deciding in the case.\(^\text{16}\)

Such a permissive evidentiary system can put jurors, who generally have little or no scientific or technical training, at an enormous disadvantage. Ill-equipped based on their own experiences to judge the merits of often

\(^{13}\) *Daubert*, 509 U.S. at 592.

\(^{14}\) *Id.*

\(^{15}\) Fed. R. Evid. 703; *Daubert*, 509 U.S. at 595.

\(^{16}\) Fed. R. Evid. 704.
abstruse scientific and technical evidence or the truthfulness of the experts, they can be easily overwhelmed, confused, and misled by hired-gun experts peddling junk science.\textsuperscript{17} It was precisely because of these risks that the Supreme Court articulated the threshold standard for the admission of such testimony in \textit{Daubert}.\textsuperscript{18}

At the core of the \textit{Daubert} decision is the notion that, to qualify as proper expert testimony, an opinion must derive from the “methods and procedures of science.”\textsuperscript{19} It must be supported by “good grounds,” based on what is known,” as contrasted with mere subjective belief or unsupported speculation.\textsuperscript{20} In this way, \textit{Daubert} ensures that an expert, when formulating an opinion for use in the courtroom, will employ the same level of intellectual rigor as would be expected in the scientific community.\textsuperscript{21}

After \textit{Daubert}, disagreement emerged about whether the principles announced in that decision apply only to an opinion based on “scientific” testimony or also to an opinion based on “technical” or “other specialized knowledge.” \textit{Kumho Tire} resolved that disagreement and confirmed that the courts must scrutinize the reliability of all expert testimony, not just “scientific” testimony.

In \textit{Kumho Tire}, an engineer relied largely on his experience in the tire industry to conclude that a manufacturing defect caused a tire blowout that ended in a

\textsuperscript{17} \textit{Daubert}, 509 U.S. at 595 (citing Jack B. Weinstein, \textit{Rule 702 of the Federal Rules of Evidence Is Sound; It Should Not Be Amended}, 138 F.R.D. 631, 632 (1991) for the proposition that “[e]xpert evidence can be both powerful and quite misleading because of the difficulty in evaluating it.”).
\textsuperscript{18} \textit{Id.}
\textsuperscript{19} \textit{Id.} at 590.
\textsuperscript{20} \textit{Id.}
\textsuperscript{21} \textit{Kumho Tire}, 526 U.S. at 152.
car wreck. In addition to finding inconsistencies in the engineer’s testimony and uncertainty in his conclusions, the district court concluded that all of the Daubert factors indicated that the engineer’s opinion was not sufficiently reliable to be admitted. Reversing the district court’s decision, the Eleventh Circuit held that Daubert applies only to “scientific” testimony, not to testimony based on “skill” or “experience.” Because the engineer based his opinion on experience analyzing tires, the Eleventh Circuit held that the district court should have allowed a jury to hear the opinion.

The Supreme Court reversed. Emphasizing that the judiciary’s gatekeeping function applies to all expert testimony, the Court explained that Rule 702 treats “technical” or “other specialized knowledge” no differently from “scientific” knowledge. The Court reiterated that Daubert discerned the gatekeeping function not from the word “scientific” in Rule 702 but rather from the word “knowledge,” and the admissibility of an expert’s opinion depends on the reliability of the expert’s methods and conclusions—no matter whether the expertise stems from “scientific,” “technical,” or “other specialized knowledge.”

The Supreme Court in Kumho Tire acknowledged that the Daubert factors fit some expert opinions better than others, but it reiterated that Daubert provides a “helpful list” of factors to evaluate reliability, not a rigid set of requirements. In some instances, the Daubert factors might not help evaluate reliability: “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.” In that circumstance, the district court enjoys wide latitude “in deciding how to test an expert’s reliability,”

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22 Id. at 147.
23 Id. at 147-49.
24 Id. at 151.
including by resorting to factors not discussed by Daubert.\textsuperscript{25} In short, \textit{Kumho Tire} confirms that a district court may apply some or all of the \textit{Daubert} factors to an expert opinion not based on “scientific knowledge” so long as those factors help assess the reliability of the expert’s opinion, but may examine factors other than those mentioned in \textit{Daubert} if helpful in assessing reliability.

The courts must also guard against an expert’s straying outside his area of expertise and offering an opinion for which he or she lacks the background or training. For example, in \textit{Wheeling Pittsburgh Steel Corp. v. Beelman River Terminals, Inc.},\textsuperscript{26} a steel manufacturer sued a warehouseman after a flood ruined tons of steel stored in the warehouse. At trial, the manufacturer called as a witness a “hydrologist specializing in flood risk management,” whom the Eight Circuit thought “easily qualifie[d] as an expert” under Rule 702.\textsuperscript{27} But the Eighth Circuit ultimately held that the expert’s testimony was inadmissible because the expert testified about warehousing practices instead of flood-risk management, and the record showed that the expert “sorely lacked the education, employment, or other practical personal experiences” to testify about warehousing.\textsuperscript{28} As the court correctly recognized, if an expert’s testimony exceeds his expertise, adherence to \textit{Daubert} demands exclusion of the expert’s testimony.

\textbf{B. The Problem of Results-Oriented Expert Testimony}

Our adversary system incentivizes the parties to hire experts to use as mouthpieces to characterize the evidence in

\textsuperscript{25} Id. at 152.

\textsuperscript{26} 254 F.3d 706 (8th Cir. 2001).

\textsuperscript{27} Id. at 715.

\textsuperscript{28} Id.
the best light possible and broadly advocate their theories of the case to the jury, irrespective of the scientific and technical merits of their theories. In the extreme, this can lead to the retention of “hired gun” experts, who discard the objectivity inherent in scientific methodology in favor of result-oriented testimony that toes the party line.

*United States v. Garcia*\(^{29}\) involves a casebook example of an expert abandoning her expert methodology in favor of parroting the party line. In a criminal trial over a conspiracy to distribute heroin, the government called as a dual expert-and-fact witness an investigator who regularly listened to “coded” discussions between drug dealers. The government qualified the witness as an expert in “decoding” these veiled conversations about drugs, but during the trial the expert often failed to explain her basis for concluding that the defendant’s innocuous references, such as the numbers “145” or “5,” referred to grams of heroin or to dollar amounts. Despite accepting the district court’s decision to qualify the witness as an expert, the Fourth Circuit reversed the defendant’s conviction largely because the expert “merely channel[ed]” inadmissible hearsay without adding any expert gloss helpful to the jury.\(^{30}\)

In egregious instances, a “hired gun” might invent from whole cloth an unsound methodology when a methodologically sound analysis would produce a conclusion unfavorable to the party that hired the expert. For example, in *EEOC v. Kaplan Higher Education Corp.*,\(^{31}\) the EEOC alleged that Kaplan’s policy of checking the credit and finances of prospective employees disparately impacted African American applicants. Because the credit-check applications lacked information about a person’s race, the EEOC’s expert invented a “race-rating” process to determine

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\(^{29}\) 752 F.3d 382 (4th Cir. 2014).

\(^{30}\) *Id.* at 394.

\(^{31}\) 748 F.3d 749 (6th Cir. 2014).
the race of each applicant. Under the race-rating process, five people eyeballed the driver’s license of a quarter of the applicants and guessed each applicant’s race. Affirming the district court’s exclusion of the expert opinion dependent on the race-rating process, the Sixth Circuit excoriated the expert’s methodology. As the court tartly observed, “[t]he EEOC brought this case on the basis of a homemade methodology, crafted by a witness with no particular expertise to craft it, administered by persons with no particular expertise to administer it, tested by no one, and accepted only by the witness himself.”

C. Weight vs. Admissibility

*Daubert*’s “gatekeeping” metaphor is both useful and vivid. It straightforwardly conveys the district court’s proper role as the adjudicator of whether the jury hears expert testimony. The district court must prevent the jury from being exposed to “junk science” under the banner of “expert testimony.”

But the gatekeeper metaphor risks eliding an important distinction: How does a district court determine whether a critique of an expert’s testimony goes to its admissibility or to its weight? Or, to state the question in institutional terms, when should the judge decide to exclude expert testimony, and when should the judge let the jury weigh the evidence?

The answer to this recurring riddle turns on reliability. In cases involving expert testimony about scientific knowledge, the reliability inquiry will be synonymous with application of the scientific method. As the Court explained in *Daubert*, “[s]cientific methodology today is based on generating hypotheses and testing them to see if they can be falsified; indeed, this methodology is what distinguishes

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32 *Id.* at 754.
science from other fields of human inquiry.”

Only by testing the reliability of the expert’s methodology can a district court determine whether “there is simply too great an analytical gap between the data and opinion proffered” for it to be admitted as expert testimony.

This section of the Monograph is composed of three components. First, it begins with an examination of the textual and precedential support for reliability as the touchstone for admission of expert testimony. Second, it discusses a recent decision in which the district court improperly abdicated its gatekeeping role—by reasoning that all criticism of the expert’s methodology went to weight, not admissibility—and the Fourth Circuit’s reversal of that erroneous ruling. And third, it discusses a lingering conflict over whether an expert’s methodology must be reliably applied at every step of the analysis. The Third Circuit has correctly held that this is a requirement for admission of expert testimony, whereas the Ninth Circuit has incorrectly held that such objections go to the weight to be given to the testimony.

1. The Textual and Precedential Underpinnings of Reliability

Support for reliability as the dividing line between admissibility and weight is found both in Federal Rule of Evidence 702’s text and in the relevant case law.

The current version of Rule 702 provides that:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

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33 509 U.S. at 593 (internal quotation marks omitted).

(a) the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;

(b) the testimony is based on sufficient facts or data;

(c) the testimony is the product of reliable principles and methods; and

(d) the expert has reliably applied the principles and methods to the facts of the case.35

Rules 702(c) and (d) thus mandate that the expert’s principles and methods be reliable and that those principles and methods be reliably applied.

Reliability has also been the touchstone since the beginning of the Daubert revolution. The Supreme Court instructed lower courts to consider the following factors when evaluating the reliability of expert testimony: whether the theory or technique in question “can be (and has been) tested”; whether the theory or technique “has been subjected to peer review and publication”; “the known or potential rate of error” of the theory or technique; “the existence and maintenance of standards controlling the technique’s operation”; and, notwithstanding the abrogation of Frye, whether the theory or technique has earned “[w]idespread acceptance” or instead “has been able to attract only minimal support” within the relevant scientific community.36 Overall, these factors capture the essence of the scientific method and emphasize the importance of falsifiability, testability, and scrutiny by third-party experts who do not have a stake in the litigation.

To be sure, because Daubert’s gatekeeping duties apply not only to scientific knowledge but also to other types of technical and specialized knowledge, the touchstone for

35 Fed. R. Evid. 702 (emphasis added).

36 Daubert, 509 U.S. at 593-94 (internal quotation marks omitted).
reliability is not limited to applying the scientific method. But whatever the field of expertise at issue, district courts must determine whether the expert has identified a methodology and reliably applied that methodology.

2. Applying the Weight vs. Admissibility Distinction

The distinction between weight and admissibility is not a mere academic exercise but rather goes to the core of the district court’s gatekeeping duties. The Fourth Circuit provided a thorough and helpful discussion of this important topic in Nease v. Ford Motor Co.\textsuperscript{37}

There, the district court allowed an engineer to testify as an expert even though he had never tested his hypothesis and had no examples of his hypothesis occurring in the real world—including in the case at hand. The district court “simply dismissed” every criticism of the expert as going to weight, not admissibility.\textsuperscript{38} The expert’s testimony, however, was nothing more than junk science masquerading as expert testimony and resulted in a $3 million jury verdict in the plaintiffs’ favor. The Fourth Circuit accordingly rejected the district court’s abandonment of its gatekeeping duties and excluded the expert.

To best understand Nease, a quick overview of the relevant facts and the expert’s proffered testimony is useful. In November 2012, plaintiff Howard Nease was driving his recently purchased, used 2001 Ford Ranger pickup truck, with an odometer reading of approximately 116,000 miles. While traveling between 45 and 50 mph, Nease realized that his truck did not decelerate when he took his foot off the pedal. Nor could he slow the truck by applying the brakes. To avoid injuring pedestrians or colliding with other cars, Nease drove the truck off the road and into a brick building.

\textsuperscript{37} 848 F.3d 219 (4th Cir.), cert. denied, 137 S. Ct. 2250 (2017).

\textsuperscript{38} Id. at 230.
For approximately 25 to 30 seconds after the crash, the tires of the truck continued to spin until the engine shut down. Nease and his wife subsequently filed a products-liability suit against Ford Motor Company in a West Virginia federal court.

The Neases retained Samuel Sero, an electrical engineer, as an expert witness. Sero believed that the truck’s failure to decelerate was caused by contaminants that became lodged between a “speed control cable” and a “casing cap,” creating a “wedging effect” that prevented the throttle from closing.

To test his hypothesis, Sero used a borescope—a fiber-optic tube equipped with a light and camera that can be inserted into otherwise inaccessible areas. When he examined the Neases’s truck, however, Sero did not find any contaminants blocking the throttle. In fact, he discovered that the throttle's speed-control guide tube moved freely. Notwithstanding this evidence, Sero maintained his hypothesis. In support of his conclusion, Sero pointed to gouges on the speed-control guide tube that he believed were left by abrasive material and contaminants stuck to the casing cap. Yet because the borescope could not precisely measure the amount of contaminants stuck in the casing cap, Sero could not determine whether such contaminants were sufficient to create a wedging effect.

Prior to trial, Ford filed a motion to exclude Sero’s testimony under Daubert. The district court denied Ford’s motion, holding that Sero was qualified as an expert given his background in engineering and that he had applied standard engineering methodology to examine the throttle in the Neases’s truck.

At trial, Sero admitted that he did not find any contaminants actually wedged between the speed-control cable and the casing cap and that, at the time of his examination, the throttle worked properly. Sero further conceded that he had never actually observed the wedging-effect flaw in any post-crash vehicle that he had inspected.
And perhaps most damning, he “was unable to distinguish between the video of the Nease borescope [from this case] and a borescope exam for a previous case in which [he] had testified that the speed control cable did not bind.”

After a verdict in the plaintiffs’ favor, the Fourth Circuit reversed. It faulted the district court for “not us[ing] Daubert’s guideposts or any other factors to assess the reliability of Sero’s testimony” and instead reasoning that Ford’s criticisms of Sero’s expert testimony went to weight, not admissibility.

The Fourth Circuit went on to hold that Sero’s expert testimony was inadmissible under Daubert. It noted that “[t]esting was of critical importance in this case” in light of Sero’s concession that he had never seen any post-crash vehicle with the wedging-effect problem. Given Sero’s concession, the Fourth Circuit found it especially troubling that Sero “conducted no testing whatsoever to arrive at his opinion.” Although recognizing that “Daubert is a flexible test and no single factor, even testing, is dispositive,” the Fourth Circuit held that “Sero’s failure to test his hypothesis renders his opinions on the cause of [the] accident unreliable.”

In Nease, the Fourth Circuit reaffirmed the importance of Daubert in keeping junk science out of the courtroom. Indeed, the Fourth Circuit recognized that the testability of an expert’s methodology is fundamental to the Daubert analysis—a criterion that the expert’s testimony in that case flunked. The Fourth Circuit, moreover, highlighted the importance of adequate controls over the expert’s

39 Id. at 226.
40 Id. at 230.
41 Id. at 231.
42 Id. at 232.
43 Id.
techniques, as vividly illustrated by Sero's inability to distinguish the video he used to support his hypothesis in the case at hand from the video he claimed to support the contrary hypothesis in a prior case. The Fourth Circuit's approach epitomizes the important distinction between weight and admissibility.

3. Experts Must Reliably Apply Each Step of their Methodologies

The circuits are divided on whether an expert must reliably apply each step of his or her methodology.

In a seminal post-Daubert decision authored by Judge Edward Becker, the Third Circuit explained that, “after Daubert, we no longer think that the distinction between a methodology and its application is viable.”44 That is because “it is extremely elusive to attempt to ascertain which of an expert’s steps constitute parts of a ‘basic’ methodology and which constitute changes from that methodology.”45 For example, “any misapplication of a methodology that is significant enough to render it unreliable is likely to also be significant enough to skew the methodology.”46 As the Third Circuit reasoned, “Daubert's requirement that the expert testify to scientific knowledge—conclusions supported by good grounds for each step in the analysis—means that any step that renders the analysis unreliable under the Daubert factors renders the expert’s testimony inadmissible.”47

On the other side of the circuit split, the Ninth Circuit has held that “[a] minor flaw in an expert’s reasoning or a slight modification of an otherwise reliable method’ does not

44 In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 745 (3d Cir. 1994).
45 Id.
46 Id.
47 Id.
render expert testimony inadmissible.”48 According to the Ninth Circuit, this ostensibly “more measured approach ... is consistent with the spirit of Daubert and the Federal Rules of Evidence,” given the “role of the fact finder in assessing and weighing the evidence.”49

To the contrary, the Ninth Circuit’s approach improperly allocates responsibility between judge and jury. Because “expert testimony may be assigned talismanic significance in the eyes of lay jurors, ... district courts must take care to weigh the value of such evidence against its potential to mislead or confuse.”50 Given this reality, lay jurors cannot be expected to determine whether a particular methodological flaw makes a study unreliable. In a similar vein, an expert’s failure to address a contrary study reveals results-oriented and litigation-driven reasoning.51 A juror, however, may not recognize the importance of this—sometimes deliberate—oversight by the expert. Ultimately, judges are better equipped to parse the scientific method and evaluate the reliability of expert testimony.


49 Id.

50 United States v. Frazier, 387 F.3d 1244, 1263 (11th Cir. 2004).

51 See, e.g., In re Zoloft (Sertraline Hydrochloride) Prods. Liab. Litig., 858 F.3d 787, 799 (3d Cir. 2017) (explaining that witnesses’ failure to address contrary studies can reveal an inconsistent application of methodology and thus warrant exclusion of their testimony); Milward v. Rust-Oleum Corp., 820 F.3d 469, 475 (1st Cir. 2016) (witness’s “complete unwillingness to engage with the conflicting studies ... made it impossible for the district court to ensure that her opinion was actually based on scientifically reliable evidence and, correspondingly, that it comported with Rule 702”).
D. Tools for Distinguishing Data-Driven, Scientifically Reliable Analyses from Unscientific, Results-Oriented Expert Testimony

Under *Daubert*, judges are tasked in the first instance with separating scientifically sound opinions that meet the admissibility threshold from unscientific speculation and outcome-driven advocacy. While in many cases, judges, like jurors, lack technical and scientific training, under Fed. R. Evid. 104 they can consider additional evidence, including evidence that may otherwise be inadmissible at trial, to scrutinize the relevance and underlying soundness of an expert’s opinions.

Moreover, starting with *Daubert* itself, courts have identified a number of factors that judges can use to separate scientifically reliable testimony from result-oriented, methodologically unsound opinions. As noted above, in *Daubert* the Supreme Court listed four such factors: (1) whether the theory or technique has been (and is capable of being) tested; (2) the known or potential error rate associated with the technique; (3) whether the theory or technique has been subjected to peer review and publication; and (4) whether the theory or technique is generally accepted in the relevant field. The Court indicated that these factors are not exclusive and that they should be applied flexibly.

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52 *Daubert*, 509 U.S. at 593.

53 *Id.* at 594; *Kumho Tire*, 526 U.S. at 153 (“[W]hether *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 also *id.* at 158-59 (“the discretion [the Court] endorses—trial-court discretion in choosing the manner of testing expert reliability—is not discretion to abandon the gatekeeping function”) (Scalia, J., concurring).
Soon after the Supreme Court issued its decision in *Daubert*, courts began identifying additional indicia of result-driven, unscientific testimony that justify, at a minimum, increased scrutiny before admission of the testimony. For example, the Ninth Circuit held on remand in *Daubert* that expert opinion developed specifically for litigation, rather than growing naturally out of the non-litigation work of the expert, required “other objective, verifiable evidence that the testimony is based on ‘scientifically valid principles’” to be admissible.54 As the court noted:

That an expert testifies for money does not necessarily cast doubt on the reliability of his testimony, as few experts appear in court merely as an eleemosynary gesture. But in determining whether proposed expert testimony amounts to good science, we may not ignore the fact that a scientist’s normal workplace is the lab or the field, not the courtroom or the lawyer’s office. That an expert testifies based on research he has conducted independent of the litigation provides important, objective proof that the research comports with the dictates of good science.55

Conversely, if the witness has performed no research independent of the litigation, his or her testimony is more likely to be unreliable.

Other “red flags” that often accompany unscientific opinions include coming to a firm conclusion before conducting the research necessary to support it, cherry-picking data to support an opinion, and the existence of

54 *Daubert v. Merrell Dow Pharms., Inc.*, 43 F.3d 1311, 1317-18 (9th Cir. 1995).

55 *Id.* at 1317 (footnote omitted).
unexplained analytical gaps between existing data and the conclusions drawn by the expert.56 A defining characteristic of the scientific method is drawing conclusions from and grounding those opinions in the existing data. As the Supreme Court has admonished, “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. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered.”57 When experts reach firm conclusions before even collecting and evaluating available data or fail to account for data that is inconsistent with their positions, their methodology is unscientific and their conclusions are of suspect scientific reliability.

For example, in one case the plaintiffs’ medical-causation experts conceded that they formed their causation opinions without even reviewing the relevant literature, notwithstanding their concessions that they were otherwise unfamiliar with the particular field of medicine at issue. In affirming the exclusion of the testimony, the Ninth Circuit explained:

Coming to a firm conclusion first and then doing research to support it is the antithesis of this method. Certainly, scientists may form initial tentative hypotheses. However, scientists whose conviction about the ultimate conclusion of their research is so firm that they are willing to aver under oath that it is correct prior to performing the necessary validating tests could properly be viewed by the district court as lacking the

56 Joiner, 522 U.S. at 146; Barber v. United Airlines, Inc., 17 F. App’x 433, 437 (7th Cir. 2001); Claar v. Burlington N. R.R., 29 F.3d 499, 502-03 (9th Cir. 1994).

57 Joiner, 522 U.S. at 146.
objectivity that is the hallmark of the scientific method.\textsuperscript{58}

In another case, the Seventh Circuit affirmed exclusion of an aviation expert who “cherry-picked the facts he considered to render an expert opinion” without “explain[ing] why he ignored certain facts and data, while accepting others.”\textsuperscript{59} As the court explained, “such a selective use of facts fails to satisfy the scientific method and \textit{Daubert}.”\textsuperscript{60}

The Advisory Committee Notes to the 2000 Amendments to Fed. R. Evid. 702 identify three additional factors to assist courts in separating the wheat from the chaff: (1) whether the expert has adequately accounted for obvious alternative explanations; (2) whether the expert is being as careful as he would be in his regular professional work outside his paid litigation consulting; and (3) whether the field of expertise claimed by the expert is known to reach reliable results of the type of opinion the expert would give.\textsuperscript{61} Federal courts can and should employ these indicia of reliability, when applicable, in assessing whether proffered opinions are properly derived using scientific methodologies.

Nevertheless, it may be that the parties’ advocacy and cross-examination of their hired experts prove inadequate for the court to properly discharge its gatekeeping role. As Justice Breyer observed in his concurrence in \textit{Joiner}, the gatekeeping requirement “will sometimes ask judges to make subtle and sophisticated determinations about

\textsuperscript{58} \textit{Claar}, 29 F.3d at 502-03 (citation omitted).

\textsuperscript{59} \textit{Barber}, 17 F. App’x at 437.

\textsuperscript{60} \textit{Id.}

scientific methodology and its relation to the conclusions an expert witness seeks to offer—particularly when a case arises in an area where the science itself is tentative or uncertain.”62 However, this is no excuse for shirking the court’s responsibility.63 To the contrary, judges have a broad range of tools to assist them in making a bottom-line determination on reliability.

1. Daubert Hearings

In Kumho Tire, the Supreme Court explained that district courts have “latitude in deciding how to test an expert’s reliability, and to decide whether or not special briefing or other proceedings are needed.”64 One way to resolve a Daubert motion is to hold a pretrial hearing. Federal Rule of Evidence 104 authorizes preliminary hearings on Daubert and other threshold admissibility issues when “justice so requires.”65 At least one court has called a Daubert hearing “the most efficient procedure that the district court can use.”66 Some district judges specify in their standing orders that Daubert challenges will be resolved through a pretrial hearing. While the precise structure of a Daubert hearing may vary from case to case, a hearing can include live testimony from the proposed expert, testimony from the other side’s expert(s) designed to demonstrate the unreliability of the testimony of the proposed expert, and argument from counsel. Resolving a Daubert motion through live testimony and argument is often more efficient and focused than relying solely on

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62 Joiner, 522 U.S. at 147-48 (Breyer, J. concurring).
63 Id. at 148.
64 526 U.S. at 152; see also Manual for Complex Litigation § 23.353 (4th ed. 2004) (explaining that district courts have “wide discretion” in deciding how to resolve Daubert motions).
65 Fed. R. Evid. 104(c)(3).
66 United States v. Downing, 753 F.2d 1224, 1241 (3d Cir. 1985).
lengthy briefs, expert reports and affidavits, and deposition transcripts.

*Daubert* hearings have several benefits. A hearing “provide[s] an opportunity for a judge to closely review the relevance and reliability of the proposed expert testimony, as well as the expert’s credentials, and to make an informed decision as to its admissibility.”67 While *Daubert* challenges are not about credibility, a hearing still allows a court to make a more informed judgment about a witness’s qualifications and methodologies. A hearing “also provides litigants with a preview of the strength of their opponents’ cases, which may encourage settlement or support a motion to dismiss a weak case on summary judgment.”68

*Kumho Tire* provides guidance on when hearings are appropriate. As the Supreme Court explained, district judges should use their discretion “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.”69 Thus, the Supreme Court has acknowledged that while a *Daubert* hearing is not necessary in every case, such hearings are particularly appropriate in unusual or complex cases.

Courts have also identified other circumstances in which *Daubert* hearings are appropriate. A hearing is important when the exclusion of proposed expert testimony may dispose of the entire case. For example, “when the ruling on admissibility [of expert testimony] turns on factual issues, ... , at least in the summary judgment context, failure to hold

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68 *Id.* at 259.

69 *Kumho Tire*, 526 U.S. at 152.
such a hearing may be an abuse of discretion.”

Thus, when the outcome of a Daubert motion is case-dispositive, courts should take particular care to ensure that the party opposing the motion has an opportunity to be heard.

A hearing is also important when the written record is not fully developed, including when an expert’s methods and the reliability of those methods may not be entirely clear. For example, in one case the Third Circuit held that “a Daubert hearing would have permitted a fuller assessment of [the proposed expert’s] analytical processes and thus was a necessary predicate for a proper determination as to the reliability of [the proposed expert’s] methods.” In another case, while noting that the district court “could have determined that it ha[d] an adequate record” based on expert reports, affidavits, and “some deposition testimony,” the Ninth Circuit “encourage[d] the court to hold a hearing on remand to provide plaintiffs with an opportunity to respond to the defendants’ challenges.”

2. Obtaining Technical Assistance

Courts also have avenues to obtain technical assistance, though they have not been fast to embrace them. Federal Rule of Evidence 706 allows a court—on a party’s motion or its own motion—to appoint an expert of its choosing to assist in evaluating the scientific merits of the parties’ competing

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70 Padillas v. Stork-Gamco, Inc., 186 F.3d 412, 418 (3d Cir. 1999); see also In re TMI Litig., 199 F.3d 158, 159 (3d Cir. 2000) (“We have long stressed the importance of in limine hearings under Rule 104(a) in making the reliability determination required under Rule 702 and Daubert, especially when a Daubert challenge is made in the context of a summary judgment motion or where summary judgment will inevitably be granted if the proffered evidence is excluded.”) (internal citations and quotation marks omitted).


72 In re Hanford Nuclear Reservation Litig., 292 F.3d 1124, 1138-39 (9th Cir. 2002).
expert theories. Court-appointed experts act as formal witnesses in the case, issue reports of their findings, and may be deposed and called to testify by the court or the parties. The court-appointed expert is entitled to “reasonable compensation, as set by the court.” In most civil cases, a court can pass on the cost to the parties “in the proportion and at the time that the court directs.”

Judge Pointer’s appointment of a panel of experts in In re Silicone Gel Breast Implant Products Liability Litigation (MDL 926) is perhaps the most famous use of the Rule 706 procedure. At the time of the appointment, over 20,000 cases were pending in the MDL. The court utilized a selection panel of six experts who then selected the four members of the expert panel, which consisted of one expert each in the fields of immunology, epidemiology, toxicology, and rheumatology. The panel heard from the parties’ experts as well as specific scientists selected by the panel. After billions of dollars had been spent in attorneys’ fees, settlements, and satisfying judgments litigating breast-implant cases, the panel concluded that there was no association between silicone gel breast implants and any of the connective-tissue diseases at issue.

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74 Fed. R. Evid. 706(b).

75 Fed. R. Evid. 706(c).

76 Id.

Numerous judges and commentators have urged courts to make greater use of Rule 706 court-appointed experts. Apart from Rule 706, courts have “inherent authority ... to appoint independent advisors” to assist in evaluating scientific evidence.

Notably, the scientific community is ready and willing to help. Indeed, in *Joiner*, *The New England Journal of Medicine* filed an *amicus* brief advocating that judges should seek “help from scientists. Judges should be strongly encouraged to make greater use of their inherent authority ... to appoint experts ... Reputable experts could be recommended to courts by established scientific organizations.” For example, the American Association for

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78 See, e.g., Richard A. Posner, *What is Obviously Wrong with the Federal Judiciary, Yet Eminently Curable*, 19 GREEN BAG 2D 187, 190 (2016) (lamenting that Rule 706 provides an underutilized “solution” to the problem of hard-to-understand technological or commercial issues); Jack B. Weinstein, *Individual Justice in Mass Tort Litigation: The Effect of Class Actions, Consolidations, and Other Multiparty Devices*, 107, 116 (1995); David L. Faigman, *The Law’s Scientific Revolution: Reflections and Ruminations on the Law’s Use of Experts in Year Seven of the Revolution*, 57 WASH. & LEE L. REV. 661, 668-69 (2000) (“Having an expert from the field to discuss the complexities of the science greatly should improve judges’ comprehension of the research and relieve their fears of making a holding or writing an opinion that delves deeply into the subject.”); Anthony Champagne et al., *Are Court-Appointed Experts the Solution to the Problems of Expert Testimony?*, 84 JUDICATURE 178, 179 n.6 (2001) (citing commentators’ arguments in favor of court-appointed experts); see also Walker v. Am. Home Shield Long Term Disability Plan, 180 F.3d 1065 (9th Cir. 1999) (affirming district court discretion to appoint medical expert *sua sponte* under Fed. R. Evid. 706(a)).

79 *Hall v. Baxter Healthcare Corp.*, 947 F. Supp. 1389, 1392 (D. Or. 1996) (discussing the appointment and use of technical advisors to assist the court in deciding *Daubert* motions in silicone breast-implant litigation); see also *Goetz v. Crosson*, 967 F.2d 29, 37 (2d Cir. 1992) (Van Graafeiland, J., concurring and dissenting) (explaining the “historically-recognized, inherent power of a court to appoint disinterested expert witnesses to aid it in determining scientific issues.”).

80 *Joiner*, 522 U.S. at 149-50 (Breyer, J., concurring; internal quotation marks omitted).
the Advancement of Science (“AAAS”) has a service that “assists federal [judges], state judges, and administrative law judges in identifying highly qualified scientists, engineers, and healthcare professionals to serve as technical experts.”

Other tools available to obtain technical assistance include Federal Rule of Civil Procedure 53, under which a district court may appoint a special master to hear evidence and make recommendations, among other tasks. A court can also hire law clerks with technical expertise.

3. Requirement that Daubert Determinations Be Made on the Record

As alluded to above, district courts have wide discretion regarding whether to hold a Daubert hearing. So how, in light of this discretion and faced with a cold record, can a court of appeals determine whether a district court adequately performed its gatekeeping duties? The solution—at least according to the First, Fifth, Sixth, Seventh, Ninth, Tenth, and Eleventh Circuits—is to require district courts to provide reasoned explanations of their rulings, whether or not they conduct an actual Daubert hearing. As the Fifth


82 See, e.g., Joiner, 522 U.S. at 147-48 (Breyer, J. concurring) (noting the increasing use of special masters); Charles Alan Wright & Arthur R. Miller, Federal Practice & Procedure §§ 2601-2615 (3d ed. 2019).

83 See, e.g., Joiner, 522 U.S. at 147-49 (Breyer, J. concurring) (alluding to Judge Charles Wyzanski’s pathbreaking decision to hire an economics professor as a law clerk to advise on a complicated antitrust case).

84 Carlson v. Bioremedi Therapeutic Sys., Inc., 822 F.3d 194, 201 (5th Cir. 2016); Pyramid Techs., Inc. v. Hartford Cas. Ins. Co., 752 F.3d 807, 814 (9th Cir. 2014); Smith v. Dorchester Real Estate, Inc., 732 F.3d 51, 64 (1st Cir. 2013); Naem v. McKesson Drug Co., 444 F.3d 593, 608 (7th Cir. 2006); Dodge v. Cotter Corp., 328 F.3d 1212, 1223 (10th Cir. 2003); Busch
Circuit explained, such a requirement is essential to assist the courts of appeals in determining whether a district court acted within its discretion in admitting (or excluding) an expert’s testimony.

II.
CASE STUDIES

This part of the Monograph utilizes four areas of law to illustrate the gatekeeping principles discussed in the previous part: (i) medical causation; (ii) insurance bad faith; (iii) class actions; and (iv) valuation and damages.

A. Medical Causation

Causation is an element of every tort case, usually established by evidence that the plaintiff’s injury would not have occurred absent the defendant’s conduct. While such evidence can in many cases be uncomplicated and its implications readily understood by a lay jury, when the injury at issue involves complex disease processes, particularly latent ones, medical expert testimony interpreting the evidence for the jury becomes essential. Consequently, courts often find themselves tasked with judging the reliability and relevance of testimony involving complex areas of medical science on the cutting edge of human understanding of disease. Whether contending that a plaintiff’s repeated concussive or sub-concussive contact playing football caused chronic traumatic encephalopathy,

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85 Restatement (Third) of Torts: Liability for Physical and Emotional Harm § 26 (2019).

86 In re Lipitor (Atorvastatin Calcium) Mktg., Sales Practices & Prods. Liab. Litig., 227 F. Supp. 3d 452, 469 (D.S.C. 2017) (“all jurisdictions require expert testimony at least where the issues are medically complex and outside the common knowledge and lay experience”), aff’d, 892 F.3d 624 (4th Cir. 2018).
ingestion of a pharmaceutical caused kidney disease, or exposure to a toxic substance led to cancer, courts tasked with the gatekeeping responsibility of assessing the admissibility of medical-causation evidence must ultimately evaluate the science purporting to elucidate the mechanisms and occurrences of these medical conditions. This is no small task given the complexity of the evidence at issue, which may implicate a wide range of medical and scientific disciplines such as microbiology, genetics, epidemiology, biostatistics, pathology, exposure science, etc.

However, in the two decades since the Supreme Court recognized the gatekeeping obligation of federal judges, courts have developed a robust jurisprudence for separating reliable scientific methodologies for attributing medical causation from mere speculative ones. What follows is an overview of the techniques that courts have used to evaluate the reliability of medical causation testimony and common pitfalls that courts should avoid.

To properly evaluate the reliability and relevance of evidence supporting medical causation, courts often subdivide the causation inquiry into two separate elements: general causation and specific causation.\footnote{\textit{Knight v. Kirby Inland Marine Inc.}, 482 F.3d 347, 351 (5th Cir. 2007) ("[T]here is a two-step process in examining the admissibility of causation evidence in toxic tort cases. First, the district court must determine whether there is general causation. Second, if it concludes that there is admissible general-causation evidence, the district court must determine whether there is admissible specific-causation evidence."); Michael D. Green \textit{et al.}, \textit{Reference Guide on Epidemiology}, at 552 & n.5, \textit{in} Federal Judicial Center, \textit{Reference Manual on Scientific Evidence} (2011).} Proof of general causation establishes that the agent at issue is capable of causing the disease complained of in humans under conditions analogous to those experienced by the plaintiff. \footnote{\textit{In re Zoloft (Sertralinehydrochloride) Prods. Liab. Litig.}, 176 F. Supp. 3d 483, 491 (E.D. Pa. 2016), \textit{aff'd}, 858 F.3d 787 (3d Cir. 2017).} Specific-causation evidence establishes that the agent
actually caused that disease in the plaintiff.\textsuperscript{89} Said another way, general causation assesses whether it is possible that the agent at issue caused the plaintiff’s injury; specific causation assesses whether it more likely than not did cause the injury. To be sure, it is ultimately the plaintiff’s burden to prove specific causation, and general causation is simply a sub-element of that requirement.

But failing to segregate and analyze these two issues separately under \textit{Daubert} can muddle the court’s gatekeeping analysis, as evidence establishing that an agent is capable of causing the plaintiff’s injury, even when robust and reliable, often says nothing about whether it did so in the plaintiff, particularly when there are many known and common alternative causes of the disease at issue. Courts, therefore, must be vigilant in evaluating the reliability and relevance of evidence at each stage of the causation inquiry.

For example, in one recent case the district court found admissible under \textit{Daubert} the opinions of the plaintiffs’ experts that environmental exposure to radiation from the defendant’s uranium effluent was both capable of causing (general causation) and did cause (specific causation) all of the more than a dozen different types of cancer in the group of seventy plaintiffs.\textsuperscript{90} On appeal of a later grant of summary judgment, however, the Third Circuit held that the specific-causation testimony was deficient.\textsuperscript{91} Notably, in offering his specific-causation opinions, the expert evaluated neither the plaintiffs’ individual radiation-exposure levels nor their other risk factors for cancer. Instead, he relied only on evidence that any amount of ionizing radiation can cause

\begin{itemize}
\item \textsuperscript{89} Id.
\end{itemize}
cancer and that, because of where they lived, all seventy of the plaintiffs were exposed to some radiation.92

The Third Circuit rejected this one-size-fits-all methodology as unscientific. As the court explained, proving specific causation requires a reasoned, individualized assessment of each plaintiff’s condition, including his or her specific exposure to radiation from uranium effluent, which the plaintiffs’ expert had not conducted.93 Evidence that a plaintiff’s exposure was capable of causing his disease, standing alone, was insufficient to prove that it did.

Conversely, specific causation cannot be established without first proving general causation. Norris v. Baxter Healthcare Corp.94 well illustrates this point. In Norris, the plaintiff’s experts opined that the plaintiff’s systemic disease was caused by her silicone gel breast implants. The experts based this opinion on their assessment of the plaintiff’s clinical condition and purported systematic elimination of all other possible explanations for her disease. Noting that there was a substantial body of epidemiology evidence showing no association between breast implants and systemic disease, which the plaintiff’s experts “completely ignored or discounted without explanation,” the trial court held that the experts’ methodology was unreliable and their causation opinions inadmissible.95 The Tenth Circuit affirmed, explaining:

In concluding that Plaintiff’s systemic injuries were a result of her silicone breast implants, Plaintiff’s experts attempted to demonstrate specific causation without first demonstrating general causation. Both of

92 Id. at 271-72.
93 Id. at 272.
94 397 F.3d 878 (10th Cir. 2005).
95 Id. at 884-85.
Plaintiff’s experts agree that, at best, silicone-associated connective tissue disease is an untested hypothesis. At worst, the link has been tested and found to be untenable. Therefore, there is no scientific basis for any expert testimony as to its specific presence in Plaintiff.96

1. General Causation

Assessing the admissibility of an expert’s general-causation opinion requires the court to determine whether the scientific evidence reliably supports that conclusion. For the opinion to be admissible, the scientific support must be sufficient to elevate the opinion to the level of “scientific knowledge” as required by Fed. R. Evid. 702. As the Supreme Court held in Daubert, scientific knowledge implies “a grounding in the methods and procedures of science” and “connotes more than subjective belief or unsupported speculation.”97 It requires the opinion to be “supported by appropriate validation—i.e. ‘good grounds,’ based on what is known.”98

A common pitfall in assessing the reliability of causation testimony is drawing the admissibility line at scientific plausibility rather than validated knowledge. For example, one district court admitted an expert’s testimony that the defendant’s dialysis procedures led to the plaintiffs’ various cardiovascular injuries even though the expert admitted that his theory of causation was only a hypothesis that had not been tested.99 The court noted that there was no question as to the expert’s “credentials and qualifications as a clinician, a

96 Id. at 887.
97 509 U.S. at 590.
98 Id.
professor, and an investigator for the National Institutes of Health.” Finding that the hypothesis was not “junk science,” and crediting the expert’s assurances that the medical literature supported his theory and that he could not test his theory on humans due to experimental and ethical limitations, the court held that the opinion “should be heard, subject of course to cross-examination.” This reasoning seems to suggest that admissibility turns on whether the opinion falls to the pejorative level of “junk science” or not. However, even opinions proffered by well-qualified experts embodying tenable hypotheses that may, in fact, be correct can fall short of the scientific-knowledge requirement.

The issue is not whether the theory is plausible but whether the science has progressed sufficiently to validate the hypothesis. As Judge Posner aptly noted in an opinion for the Seventh Circuit affirming a district court’s exclusion of testimony that a nicotine patch had caused the plaintiff’s heart attack on the ground that the plaintiff had produced inadequate proof of general causation, “the courtroom is not the place for scientific guesswork, even of the inspired sort. Law lags science; it does not lead it.” For instance, in Tamraz the plaintiff’s expert opined that exposure to manganese from welding fumes caused the plaintiff’s Parkinson’s Disease. He reached that conclusion because it was “the most likely explanation for [the plaintiff’s] early onset parkinsonism,” based on his ‘clinical examination,’ ‘Mr. Tamraz’s history’ and just general experience and knowledge about movement disorders.”

100 Id. at *10.
101 Id.
103 Daubert, 509 U.S. at 590.
104 Rosen v. Ciba-Geigy Corp., 78 F.3d 316, 319 (7th Cir. 1996).
105 620 F.3d at 670 (citation omitted).
that the fact that “manganese is known to cause manganism” (another type of movement disorder) made it “a possible candidate for triggering Parkinson’s Disease,” he provided no scientific evidence that it actually does cause Parkinson’s Disease. In holding that the opinion should have been excluded, the Sixth Circuit noted that “it [was] no more than a hypothesis, and it thus is not ‘knowledge,’ nor is it ‘based upon sufficient facts or data’ or the ‘product of reliable principles and methods ... applied ... reliably to the facts of the case.’”

The task for the court is determining whether the proffered scientific evidence meets the standard of scientific validity. “[W]hen an expert opinion is based on data, a methodology, or studies that are simply inadequate to support the conclusions reached, Daubert and Rule 702 mandate the exclusion of that unreliable opinion testimony.” Proof of general causation can involve many sources of scientific evidence, including mechanistic studies, animal studies, case reports, case series, epidemiology studies, clinical trials, and meta-analyses, among others. Discerning the import of what can often be conflicting results within and between these lines of evidence can be challenging. There is no strict formula for doing so. All studies have flaws and limitations, and scientific judgment is needed to synthesize the body of evidence to reach causal conclusions. The role of the court is to assess whether the expert’s synthesis follows reliable scientific principles. Accordingly, the court must look beyond the results of individual studies and the conflicts that may appear between them to examine the underlying methodology the expert employs to resolve those conflicts. Failing to consider and/or

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106 Id.

107 Id. (citing Fed. R. Evid. 702).

108 Amorgianos, 303 F.3d at 266 (affirming exclusion of opinion that peripheral neuropathy was caused by exposure to organic solvents).
explain contradictory study results, drawing conclusions from studies contrary to those the study authors themselves reach from the data, and extrapolating from existing research without scientific justification are indicia of the use of unscientific methods in assessing general causation.109

Courts generally agree that, as compared with anecdotal case reports, epidemiologic studies and clinical trials, which study disease/outcomes in groups of people utilizing control populations, present stronger evidence from which causation can be inferred.110 Nevertheless, the existence of one or more epidemiology studies purporting to find an association between the agent and the disease at issue is generally not sufficient, in and of itself, to establish general causation.111 Correlation does not equal causation.112 And even after researchers convince themselves that the observed associations cannot be explained by chance or other inherent biases in the study designs, scientific judgment is needed to assess whether the observed associations are indeed causal.113 To make those assessments, researchers may employ criteria such as those first proposed by the U.S. Surgeon General in 1964 for assessing the relationship

109 Milward, 820 F.3d at 475 (affirming exclusion of expert’s causation testimony in part because she selectively relied on positive studies and failed to explain why she disregarded contradictory ones); Norris, 397 F.3d at 885 (affirming exclusion of causation testimony in part because experts failed to justify disregarding large body of epidemiologic evidence refuting causation); In re Nexium Esomeprazole, 662 F. App’x 528, 530 (9th Cir. 2016) (affirming exclusion of causation opinion as unreliable in part because expert inferred causation from studies that did not themselves come to that conclusion); Moore v. Ashland Chem., Inc., 151 F.3d 269, 279 (5th Cir. 1998) (noting that extrapolation or leap from one chemical to another must be reasonable and scientifically valid).

110 See, e.g., Norris, 397 F.3d at 882.

111 Michael D. Green et al., supra note 87, at 598.

112 Norris, 397 F.3d at 885.

113 Michael D. Green et al., supra note 87, at 598.
between smoking and lung cancer and later expanded upon by Sir Austin Bradford Hill. Now referred to as the Bradford Hill or simply Hill criteria, they are a list of nine factors that can be used to assess whether an observed association is causal:

**Temporal Relationship.** The hallmark of a causal relationship is that the exposure precedes the disease. This is a necessary condition. Nevertheless, the existence of a temporal relationship is not sufficient to establish causation by itself.

**Strength of Association.** This criterion refers to the relationship between the exposure and the disease, often captured by a statistic called relative risk. The higher the relative risk, the more likely that the association is causal.

**Dose-Response.** Typically, for causal relationships, higher exposures are associated with higher levels of disease. The lack of a dose-response relationship makes the existence of a causal relationship less likely.

**Replication.** Rarely can a single study demonstrate a causal relationship by itself. When similar associations are observed in a variety of study settings using different study designs, the likelihood that the relationship is causal is enhanced. Conversely, when positive results are not replicated, it is more likely that the association is not causal.

**Biologic Plausibility.** When the mechanism by which the exposure might cause the disease is known and consistent with biological knowledge, a causal inference is more plausible.

**Alternative Explanations.** Alternative non-causal explanations for the observed observations should be considered and ruled out. The failure to do so confounds any causation analysis.
Effect of Cessation of Exposure. If a causal relationship exists, the risk of the disease would be expected to decrease upon cessation of the exposure. When this is observed, an inference of causation is more warranted.

Specificity of Association. When the exposure is associated with a specific disease, the association is more likely to be causal than if the observed association covers a wide range of unrelated conditions.

Consistency with other Knowledge. This criterion examines whether a causal relationship is consistent with other information, scientific knowledge, and evidence.114

No one criterion is the sine qua non of establishing causation, and the criteria are typically flexibly applied to the applicable evidence.115 Nevertheless, for any such analyses to satisfy Daubert “all of the relevant evidence must be gathered, and the assessment or weighing of that evidence must not be arbitrary, but must itself be based on methods of science.”116 In In re Zoloft, an expert purported to employ a “weight of the evidence” methodology in conjunction with the Hill criteria to conclude that taking Zoloft causes birth defects. In affirming the district court’s determination that the expert’s use of the Hill criteria was unreliable, the Third Circuit noted: “To ensure that the Bradford Hill/weight of the evidence criteria ‘is truly a methodology, rather than a mere conclusion-oriented selection process ... there must be a scientific method of weighting that is used and explained.’”117 Accordingly, it is not enough that the expert employed a methodology for

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114 Id. at 599-600.
115 Id.
116 In re Zoloft, 858 F.3d at 796 (quoting Magistrini v. One Hour Martinizing Dry Cleaning, 180 F. Supp. 2d 584, 602 (D.N.J. 2002)).
117 Id. at 796 (quoting Magistrini, 180 F. Supp. 2d at 607).
evaluating the scientific evidence at issue; the court must ensure that the methodology was reliably applied to the various pieces of evidence in the case.

2. Specific Causation

To establish specific causation, the plaintiff must, at a minimum, prove that he or she was exposed to the agent claimed to have caused his or her disease. In toxic-exposure cases, proof of some exposure is not ordinarily sufficient to satisfy Daubert, however. Instead, the expert must have evidence that the exposure was to a dose sufficient to have been capable of causing the plaintiff’s disease.\(^{118}\) Indeed, one of the central tenets of toxicology is that all materials are toxic but it is the dose that makes the poison.\(^{119}\) This principle imposes an exposure-assessment requirement on experts offering causation opinions in toxic-exposure cases. Citing this requirement, the Fifth Circuit affirmed the exclusion of causation opinions that exposure to ethylene oxide had caused the plaintiff’s brain cancer because the experts had no information on the amount of exposure the plaintiff may have had. As the court explained:

> Scientific knowledge of the harmful level of exposure to a chemical, plus knowledge that the plaintiff was exposed to such quantities, are minimal facts necessary to sustain the plaintiffs’ burden in a toxic tort case.\(^ {120}\)

\(^{118}\) Allen v. Pa. Eng’g Corp., 102 F.3d 194, 199 (5th Cir. 1996).


\(^{120}\) Allen, 102 F.3d at 199; see also Hall v. Conoco Inc., 886 F.3d 1308, 1317 (10th Cir. 2018) (excluding expert testimony that failed to reliably assess plaintiff’s exposure to benzene and noting that “[w]hen causation involves a link between a disease and exposure to a toxin, the exposure must ordinarily be quantified”).
While precise quantification of the plaintiff’s exposures is not always necessary to support a specific-causation opinion, experts must provide a sufficient qualitative assessment to establish the exposure as a potential cause.121

Once the threshold exposure requirement is met, experts typically use two principal methods to establish specific causation. The first and most common involves evaluating the plaintiff’s clinical presentation and history, identifying all of the possible causes of the plaintiff’s condition, and then systematically excluding (if possible) all but the single factor that the expert concludes is the causal one. This methodology—sometimes referred to as “differential etiology”—is akin to the “differential diagnosis” method used by physicians when attempting to diagnose a plaintiffs’ disease.122 While many courts have acknowledged that this methodology for attributing causation has its origins in litigation rather than clinical practice, if the methodology is employed in a rigorous manner, courts have deemed it sufficient to satisfy Daubert.123

Nevertheless, several aspects of this method merit close scrutiny by courts to ensure that experts employing it do so reliably as required by Daubert. A critical first step in the methodology is “ruling in” all of the possible causes to be evaluated, including the agent at issue. If general causation has not been established for that agent, the agent cannot properly be ruled in and considered as a possible cause.124

121 Westberry v. Gislaved Gummi AB, 178 F.3d 257, 264 (4th Cir. 1999) (deeming evidence of “substantial exposure” sufficient to support expert opinion).

122 Michael D. Green et al., supra note 87, at 610.

123 Compare Tamraz, 620 F.3d at 674 (finding application of differential etiology methodology unreliable), with Best v. Lowe’s Home Ctrs., Inc., 563 F.3d 171, 178-80 (6th Cir. 2009) (upholding opinion based on differential etiology where particular criteria were satisfied).

124 Johnson v. Arkema, Inc., 685 F.3d 452, 469 (5th Cir. 2012) (affirming exclusion of expert’s differential-etiology-based specific-
Thus, differential etiology is not a substitute for establishing
general causation and cannot be used to circumvent that
necessary predicate to establishing causation. Similarly, in
the context of the differential-etiology methodology, the
exposure-assessment requirement noted above can be
thought of as a necessary step in “ruling in” a claimed
exposure as a possible cause.

Once all possible causes are reliably “ruled in,” to identify
the agent as the cause of a plaintiff’s disease, the expert must
reliably “rule out” as a cause the other possible competing
etiologic factors. This may not be possible, particularly if not
all of the causes of the disease are known, as is often the
case.\textsuperscript{125} Courts routinely exclude specific-causation
“differential etiology” analyses when experts fail to account
for and “rule out” other potential causes. For example, the
Fourth Circuit recently affirmed the exclusion of specific-
causation testimony that Lipitor had caused the plaintiff’s
diabetes in part because the expert provided no reasoned
analysis for ruling out family history, race, body mass index,
and age as independent factors causing the plaintiff’s
disease.\textsuperscript{126} Indeed, the plaintiff’s expert had admitted that
many of these factors presented far more risk of diabetes
than Lipitor itself.\textsuperscript{127} As the court noted:

causation opinion and explaining that “before courts can admit an expert’s
differential diagnosis, which, by its nature, only addresses the issue of
specific causation, the expert must first demonstrate that the chemical at
issue is actually capable of harming individuals in the general population,
thereby satisfying the general causation standard”).

\textsuperscript{125} Milward, 820 F.3d at 476 (affirming exclusion of causation opinion
that could not rule out “unknown” causes that accounted for 70-80% of
cases of disease); see also Michael D. Green et al., supra note 87, at 618
(noting that differential-etiology methodology “is only valid if general
causation exists and a substantial proportion of competing causes are
known”).

\textsuperscript{126} In re Lipitor (Atorvastatin Calcium) Mktg., Sales Practices & Prods.
Liab. Litig. (No. II) MDL 2502, 892 F.3d 624, 645 (4th Cir. 2018).

\textsuperscript{127} Id. at 644.
Dr. Murphy’s report appeared to dismiss other possible causes in favor of Lipitor in a cursory fashion that appeared closer to an *ipse dixit* than a reasoned scientific analysis. Dr. Murphy’s conclusions focused almost exclusively on the fact that Ms. Hempstead took the drug and later developed the disease, rather than explaining what led her to believe that it was a substantial contributing factor as compared to other possible causes. Simply put, *Daubert* requires more.128

The court rejected the expert’s attempt to rule out these factors simply by pointing to studies showing that Lipitor increased the risk of diabetes even after these other factors were controlled for. As the court observed, the expert had conflated general and specific causation. The fact that studies had shown that Lipitor caused diabetes in individuals after controlling for other factors established that it could be a cause, but it did not mean that it was a cause of the plaintiff’s diabetes.129

The second method of establishing specific causation requires proof that the etiologic agent at issue increases the risk of disease in exposed individuals to such an extent that it is more likely to have caused the plaintiff’s injuries than the other plausible explanations. This can be established quantitatively under certain circumstances if, for example, epidemiologic evidence demonstrates that the agent at issue more than doubles the risk of disease in populations analogous to the plaintiff.130 Such a finding implies that in populations exposed to the agent, most cases of the disease

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128 Id. at 645.
129 Id. at 644.
130 Michael D. Green *et al.*, *supra* note 87, at 611-16.
can be attributed to the agent. While this method may be employed even when a differential-etiologic method is not able to rule out all potential competing causes other than the agent at issue, scientific evidence that the agent presents more risk of disease than the other factors combined is required. A signature disease—one having essentially only one principal cause—often lends itself to this method of causal attribution. When a disease is exceedingly rare except in persons excessively exposed to the agent at issue, in someone with both a documented excessive exposure and the disease, it is proper to infer that the exposure was causal since that is the most likely explanation (greater than 50% probability) of the plaintiff’s condition. Examples of exposures associated with signature diseases include vinyl chloride (liver cancer) and certain types of amphibole asbestos (mesothelioma). In the more common situation in which multiple known potential causative factors are present, however, the expert is required to support with scientific evidence his or her opinion that the agent at issue is more likely the cause than these other factors. Evidence only that the agent is a risk factor, without more, is insufficient.

B. Insurance Bad Faith

Courts have recognized that insurance bad-faith cases often present issues that are peculiar to the conduct of the

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131 Id.

132 Barrett v. Rhodia, Inc., 606 F.3d 975, 984 (8th Cir. 2010) (in affirming exclusion of testimony that exposure to hydrogen sulfide caused plaintiff’s neurological injuries, noting that expert testimony “based on possibility or speculation is insufficient [to establish causation]; it must be stated as being at least ‘probable,’ in other words, more likely than not”) (internal quotation marks omitted); Guinn v. AstraZeneca Pharm. LP, 602 F.3d 1245, 1255 (11th Cir. 2010) (An expert “cannot merely conclude that all risk factors for a disease are substantial contributing factors in its development. The fact that exposure to [a substance] may be a risk factor for [a disease] does not make it an actual cause simply because [the disease] developed.”) (internal quotation marks omitted).
insurance industry and require knowledge about claim-handling practices that is beyond the understanding of laypeople.\textsuperscript{133} Accordingly, most courts allow expert witnesses to describe practices and standards in the insurance industry and opine on whether the insurer complied with those standards.\textsuperscript{134} Courts have disagreed, however, over the proper scope of such testimony. In particular, expert testimony offered in a bad-faith case requires careful attention to (1) whether the expert is qualified in the specific area of his or her testimony; (2) whether the expert used a reliable methodology to reach his or her opinions; and (3) whether the expert invades the exclusive role of the jury (by testifying on issues that the jury is competent to decide) or the court (by testifying on questions of law).

Notably, some courts have held that expert testimony is necessary for a plaintiff to prove a bad-faith claim.\textsuperscript{135} Other courts have disagreed, holding that the jury can sufficiently understand insurance-industry standards or company policies without the aid of an expert witness.\textsuperscript{136} Most courts refuse to adopt a per se rule on whether expert testimony is required or must be excluded in all bad-faith cases, acknowledging that the decision to admit expert testimony is


\textsuperscript{134} See, e.g., Rawlings v. Apodaca, 726 P.2d 565, 571-72, 573-74 (Ariz. 1986) (affirming admission of expert testimony on industry customs and the insurer’s breach of those customs).


within the discretion of the trial court and may depend on the complexity of the issues in the case.137

1. Admissibility of Testimony by Bad-Faith Experts

   a. Expert Qualifications

   In general, several years of experience handling or supervising insurance claims is a sufficient foundation for expertise in a bad-faith case. Conversely, an individual who lacks sufficient experience handling claims is generally unqualified to opine on issues of bad faith. For example, one federal district court excluded an expert’s testimony because the expert “lack[ed] experience with commercial claims handling other than testifying about it,” the expert’s report largely consisted of legal argument, and “the degree of ‘hired gun’ partisanship ... substantially exceed[ed] anything that the standards of Daubert and Rule 702 [would] permit.”138

   Even when an expert has general experience in the insurance industry, he or she may lack experience with the particular type of policy or claim at issue.139 Such lack of

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137 See id. at 1106–07 (expert testimony is not required to prove bad faith; summarizing similar holdings); Mohney, 116 A.3d at 1137.

138 CR Operating Co. v. Great Am. Ins. Co., 2013 WL 12091069, at *4-5 (W.D. Okla. 2013) (excluding expert’s testimony in part because he had no experience with commercial claims handling); see also Weiser-Brown Operating Co. v. St. Paul Surplus Lines Ins. Co., 801 F.3d 512, 529 (5th Cir 2015) (affirming exclusion of proffered expert as unqualified to testify when the expert had no recent experience as an insurance adjuster and was not knowledgeable of local or national industry standards).

particularized experience does not automatically disqualify the expert.\textsuperscript{140} If the expert’s testimony on general insurance-industry practices or standards could assist the jury, the expert’s lack of particularized experience will likely present only a credibility issue that the parties can address through cross-examination.\textsuperscript{141} Indeed, courts risk reversal if they apply too high a standard for particularized knowledge by experts. For example, the Ninth Circuit reversed a district court’s exclusion of expert testimony on the ground that the witness was “not an expert in any field relevant to [the] case.”\textsuperscript{142} The Ninth Circuit held that the lower court’s ruling was a clear abuse of discretion because the witness had decades of experience in the industry, and his testimony about general industry standards could have assisted the jury in determining whether the defendant acted in bad faith.\textsuperscript{143} Nevertheless, in certain situations, lack of familiarity with a particular type of policy or claim may render an expert unqualified to opine on issues of bad faith.

A more challenging question is presented by a proposed expert who lacks experience handling claims but has acquired expertise related to the insurance industry through other means. Parties sometimes offer attorneys as experts on bad-faith claims based on their experience litigating insurance cases or consulting on insurance matters.\textsuperscript{144}


\textsuperscript{142} Fortune Dynamic, Inc. v. Victoria’s Secret Stores Brand Mgmt., Inc., 618 F.3d 1025, 1043 (9th Cir. 2010) (internal quotation marks omitted).

\textsuperscript{143} Id.

Similarly, academics are sometimes offered as experts based on their education and research into the insurance industry and claim-handling practices.\textsuperscript{145} Some courts have held that such witnesses are qualified to testify as expert witnesses in bad-faith cases as long as they have a sufficient foundation for their opinions in their training or experience.\textsuperscript{146} This is a questionable practice, however, because such witnesses are more likely to be hired-gun experts who will present the jury with an idealized, or partisan, view of claim handling that is divorced from the real-world practices and standards followed by insurers. Some courts have recognized this concern and held that such witnesses are not qualified to testify if they do not have real-world experience adjusting claims.\textsuperscript{147}

Finally, careful thought should be given to whether the issues in the case require an expert who has experience with claim-handling practices in the relevant jurisdiction. Courts have found such experience to be necessary to render a


\textsuperscript{146} See, e.g., Whiteside v. Infinity Cas. Ins. Co., 2008 WL 3456508, at *7 (M.D. Ga. 2008); Gallatin Fuels, 2006 WL 1437169, at *3 (professor of law and economics was qualified to testify on principles of insurance, industry practices, and reasonableness of claim-handling process).

\textsuperscript{147} See, e.g., Dudash, 2017 WL 1969671, at *1 (excluding attorney expert who practiced bad-faith litigation and was offered to testify about whether the defendant acted in bad faith based on his review of the relevant documents, his experience, and his understanding of Florida law); Lopez, 2015 WL 6447497, at *3 (holding attorney expert was unqualified because he had no experience with the internal processes of insurance companies); Cal. Shoppers, Inc. v. Royal Globe Ins. Co., 175 Cal. App. 3d 1, 66 (1985) (reversing because trial court admitted the testimony of an attorney expert who had experience litigating against insurance companies but did not have expertise with “insurance company practices”); Sullivan v. Am. Int'l Grp., Inc., 2008 WL 2876554, at *3 (E.D. Ky. 2008) (holding former judge offered as expert was unqualified to testify as to bad faith because he had little experience with insurance cases); Farmland Mut. Ins. Co. v. Johnson, 36 S.W.3d 368, 378-79 (Ky. 2000) (affirming exclusion of attorney expert with no experience working in the insurance industry).

\textit{b. Methodology}

Expert testimony on bad-faith claims generally does not follow a defined methodology but instead is based on the expert’s experience, education, and training.\footnote{See, e.g., Chaney v. State Farm Mut. Auto. Ins. Co., 2015 WL 12838839, at *4 (M.D. Fla. 2015) (noting that expert relied primarily on his experience for his opinion).} Accordingly, courts generally turn to the statement in \textit{Kumho Tire} that alternative factors may be required to assess the reliability of expert testimony in a particular field.\footnote{Hangarter v. Provident Life & Accident Ins. Co., 373 F.3d 998, 1017-18 (9th Cir. 2004); Hanson v. Mut. of Omaha Ins. Co., 2003 WL 26093254, at *6 (D.S.D. 2003).} Among the alternative factors that courts have considered, the most important is whether the expert has identified a sufficient foundation for his or her opinions in real-world experience and documented industry standards.\footnote{Camacho v. Nationwide Mut. Ins. Co., 13 F. Supp. 3d 1343, 1369 (N.D. Ga. 2014); Hanson, 2003 WL 26093254, at *6.} In order to avoid the admission of mere \textit{ipse dixit}, courts should insist that an expert relying on experience “explain how that experience
leads to the conclusion reached, why that experience is a sufficient basis for the opinion, and how that experience is reliably applied to the facts.”

Moreover, an expert relying on experience usually should be able to cite recognized industry norms and standards to support his or her opinions. For example, one federal district court held that an expert could not testify that an insurance company was required to meet with the plaintiffs without identifying a recognized industry standard that imposed such a requirement.

An expert’s testimony that an insurance company failed to follow a particular industry standard, even if supported by an adequate foundation, is irrelevant if the violation of that particular standard is not connected to the bad-faith allegation in the case. Unfortunately, some courts have allowed such testimony on the theory that the relevance of even untethered allegations of bad practices by the defendant is a question of weight that can be addressed through cross-examination. Such testimony is improper—particularly when it comes from a repeat-player witness who has a

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154 Keshish, 959 F. Supp. 2d at 1240; Chaney, 2015 WL 12838839, at *4.


156 11333 Inc. v. Certain Underwriters at Lloyd’s, London, 261 F. Supp. 3d 1003, 1030-31 (D. Ariz. 2017) (excluding expert testimony on failure to follow industry standards when “[n]one of the listed shortcomings has anything to do with the substance of the processing of this case”).

prepackaged bad-faith case against a defendant. This problem takes on particular significance when the plaintiff is seeking punitive damages and such “bad company” evidence can poison the well against the defendant and result in a punitive award that does not bear a reasonable relationship to the actual alleged misconduct in the case.

Finally, even when the expert’s methodology otherwise passes muster, his or her testimony still should be excluded on methodological grounds if the expert lacks an adequate factual basis for application of the methodology. For example, if counsel provides an expert with only those documents suggesting bad faith, instead of the entire field of relevant documents, the expert may not have an accurate sample on which to base his or her opinion.158

c. Testimony within the Competence of the Jury

Under common law, witnesses could not testify about the ultimate issue in a case.159 Rule 704(a) of the Federal Rules of Evidence (which has been adopted by many states) does not limit expert testimony so stringently, allowing testimony that “embraces an ultimate issue to be decided by the trier of fact.” Nevertheless, the role of weighing the evidence and deciding the ultimate issue in a case should be left exclusively to the jury.160 Therefore, courts typically do not allow expert testimony on whether the defendant acted in bad faith, and do not allow the expert to tell the jury what decision it should reach.161 Some courts hold that the expert’s opinion on

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158 CR Operating Co. v. Great Am. Ins. Co., 2013 WL 12091069, at *4 (W.D. Okla. 2013) (expert testimony was unreliable because it was based exclusively on a limited number of case documents).


160 Id.

161 See, e.g., Montgomery v. Aetna Cas. & Sur. Co., 898 F.2d 1537, 1541 (11th Cir. 1990) (“An expert may not, however, merely tell the jury what result to reach.”); Sims v. Great Am. Life Ins. Co., 469 F.3d 870, 889 (10th
whether the defendant acted in bad faith is irrelevant under Rule 401 and more prejudicial than probative under Rule 403 because the jury must make that determination itself. More commonly, courts hold that such testimony is unhelpful to the jury under Rule 702(a) because it consists of nothing more than a determination that the jury can make for itself. Whatever the rationale, expert testimony that reaches a conclusion about whether the insurer acted in bad faith usurps the proper role of the jury.

Whether an insurer acted reasonably also is generally a question of fact for the jury to determine through application of legal principles and industry standards to the facts of the case. Some courts have allowed expert testimony on whether the insurer acted reasonably on the theory that the jury does not have specialized knowledge of the insurance industry, and therefore expert testimony on the issue is helpful and admissible. But the jury is competent to answer questions about whether an insurer acted reasonably in a particular case once it has been informed, through expert opinions, about any applicable industry standards and learned, through instructions from the court, about the

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Cir. 2006) (“Although any witness may offer an opinion as to an ultimate issue to be decided by a jury, this opinion should not unduly invade the province of the jury when the assistance of the witness is unnecessary.”); Camacho, 13 F. Supp. 3d at 1367.


165 Higgins, 2012 WL 2369007, at *2.

166 Whiteside, 2008 WL 3456508, at *7; Camacho, 13 F. Supp. 3d at 1367.
applicable legal principles. Thus, expert opinions about whether the insurer acted reasonably, like opinions about whether the insurer acted in bad faith, are unnecessary and improper.

More problematic is testimony that bleeds over into the jury’s role under the guise of explaining the expert’s opinions. In general, the role of an expert in a bad-faith case should be limited to providing the jury with specialized information about the insurance industry so the jury can then apply that information to the facts of the case and make an informed and unbiased conclusion about how the insurer handled the claim.

Experts should not act as a mouthpiece for the counsel who retained them, providing testimony that amounts to a protracted closing argument by walking through the evidence in the case, summarizing and interpreting the record, and giving a narrative overview of one side’s position. That practice exceeds the proper scope of expert testimony by (i) usurping the jury’s role of interpreting and weighing the evidence and (ii) reaching conclusions that the jury, once informed of relevant insurance-industry practices and standards, is competent to reach for itself. The role of the expert should be limited to filling gaps in the jury’s knowledge about the insurance industry. Once the expert has educated the jury about industry-specific practices and standards that are relevant to the case, the jury is competent to take it from there and determine whether the evidence

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170 See, e.g., Whiteside, 2008 WL 3456508, at *7.
shows that the defendant violated those standards and acted in bad faith.\footnote{Higgins, 2012 WL 2369007, at *2; Summers, 69 Cal. App. 4th at 1183; Lampkins, 401 A.2d at 969.}

To the extent that the jury requires guidance to understand how applicable legal principles and industry standards should be applied to a complicated factual record, that is the role of counsel in closing argument, not a proper subject for expert testimony.\footnote{N. Am. Specialty Ins. Co. v. Britt Paulk Ins. Agency, Inc., 579 F.3d 1106, 1112 (10th Cir. 2009) (excluding testimony comparing defendant's actions to the industry standard because the jury could make the comparison itself); Nichols, 154 F.3d at 883 (explaining expert testimony "is not helpful if it draws inferences or reaches conclusions within the jury's competence or within an exclusive function of the jury").} If the expert's testimony enters the domain of advocacy rather than simply providing information grounded in the expert's education and experience, then the expert is improperly performing the jury's function of weighing the evidence.\footnote{In re Commercial Money Ctr., Inc., 737 F. Supp. 2d 815, 852–53 (N.D. Ohio 2010).} For example, the Tenth Circuit held that it is appropriate to exclude an expert's testimony on bad faith if the jury is competent to decide the issues about which the expert is testifying.\footnote{Thompson, 34 F.3d at 941.} Allowing expert testimony in such areas could unduly influence the jury by putting the imprimatur of expertise on what is effectively a closing argument.\footnote{United States v. Montas, 41 F.3d 775, 784 (1st Cir. 1994); Summers, 69 Cal. App. 4th at 1182.}

A related point that frequently arises in bad-faith litigation is that an expert is no more qualified than the jury to assess the insurer's intent, purpose, mindset, honesty, malice, or other subjective mental state.\footnote{First United Fin. Corp., 96 F.3d at 136.} In particular,
proffered testimony about whether a claims handler or insurer had a particular state of mind while handling a claim is generally inadmissible because the jury is just as capable as the expert at weighing the evidence and determining state of mind.\textsuperscript{177} Indeed, because experts are not qualified as mind readers, they do not have any expertise that would allow them to reliably assist the jury in identifying an actor’s state of mind.\textsuperscript{178} Courts also have held that expert testimony about state of mind is prejudicial because the jury may be inclined to defer to an expert’s opinion about state of mind even when that testimony has no more weight than the jury’s own independent assessment.\textsuperscript{179}

d. Testimony within the Competence of the Court

It is the exclusive role of the court to interpret the law and instruct the jury on applicable legal principles.\textsuperscript{180} Allowing expert testimony on legal conclusions, even if potentially helpful to the jury, could lead to confusion and

\textsuperscript{177} In re Commercial Money Ctr., 737 F. Supp. 2d at 849; Gallatin Fuels, 410 F. Supp. 2d at 423; Kotla v. Regents of Univ. of Cal., 115 Cal. App. 4th 283, 293 (2004) (“Absent unusual facts, it must be presumed that jurors are capable of deciding a party’s motive for themselves without being told by an expert.”).

\textsuperscript{178} Sassafras Enters., Inc. v. Roshco, Inc., 915 F. Supp. 1, 8 (N.D. Ill. 1996) (finding witness was unqualified to testify as to the state of mind of another); Salas v. Carpenter, 980 F.2d 299, 305 (5th Cir. 1992) (holding expert’s testimony on state of mind was not helpful to the jury); United States v. Webb, 625 F.2d 709, 711 (5th Cir. 1980) (affirming exclusion of expert testimony on character because it was within the jury’s purview).

\textsuperscript{179} See, e.g., United States v. Ruppel, 666 F.2d 261, 270 (5th Cir. 1982); Kotla, 115 Cal. App. 4th at 293 (reversing decision to admit expert testimony because the testimony “created an unacceptable risk that the jury paid unwarranted deference to [the expert’s] purported expertise when in reality he was in no better position than they were to evaluate the evidence”).

\textsuperscript{180} S. Pine Helicopters, Inc. v. Phx. Aviation Managers, Inc., 320 F.3d 838, 841 (8th Cir. 2003).
bias.\textsuperscript{181} To the extent there is a difference between the standards offered by the expert and the court, the jury may become confused about which to apply.\textsuperscript{182} And to the extent there is no difference, the expert's testimony is duplicative and unnecessary. Further, expert testimony on legal conclusions may be prejudicial under Rule 403 because the jury could be unduly influenced by such “expert” testimony, even if that testimony is in tension with (or contrary to) instructions from the court.\textsuperscript{183}

The interpretation of contracts, including insurance policies, is a matter of law for the court to decide when contract terms are not ambiguous.\textsuperscript{184} Therefore, expert testimony on insurance contracts is usually limited to explaining non-obvious industry terminology or relevant standards and practices.\textsuperscript{185} Experts usually should not be

\textsuperscript{181} Fid. Nat'l Fin., Inc. v. Nat'l Union Fire Ins. Co. of Pittsburg, 2014 WL 1286392, at *3 (S.D. Cal. 2014) (excluding expert testimony on legal standards because the testimony conflicted with the court's instructions and would confuse the jury).

\textsuperscript{182} Id.; Higgins, 2012 WL 2369007, at *2; Ryan v. Nat'l Union Fire Ins. Co of Pittsburgh, 2010 WL 2232670, at *7 (D. Conn. 2010).


\textsuperscript{185} S. Pine Helicopters, 320 F.3d at 841; Essex Ins. Co. v. Structural Shop, Ltd., 2017 WL 2224879, at *2 (N.D. Ill. 2017) (permitting expert to testify on industry practices and standards as well as whether the defendant’s conduct met those standards, but excluding testimony on the law governing the case and testimony on the legal implications of the defendant’s conduct); Ryan, 2010 WL 2232670, at *7; Whiteside v. Infinity Cas. Ins. Co., 2008 WL 3456508, at *7 (M.D. Ga. 2008).
allowed to opine on the legal effect of policy provisions, such as whether a plaintiff was covered under the policy, because this is a question of law for the judge to decide. But a court may allow an expert to testify on how the industry commonly understands a technical policy provision. For example, an expert may be allowed to testify about how the industry generally interprets the term “timely” in an insurance contract, but not about whether a particular policy imposed an obligation to act in a timely manner.

Notably, some courts have allowed experts to reference or rely on legal materials such as cases and statutes as a part of their explanation of industry standards. And other courts have allowed testimony that amounts to an interpretation of the law when the industry standard is “so intertwined” with the legal interpretation that the expert could not adequately explain the industry standard without also explaining the relevant legal standard. But allowing such testimony should be done only when jury instructions alone are inadequate. In all other circumstances, testimony of this sort is more prejudicial than probative.

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186 See, e.g., McHugh v. United Serv. Auto. Ass’n, 164 F.3d 451, 454 (9th Cir. 1999) (excluding expert testimony on what conditions were covered under the policy); Essex Ins. Co., 2017 WL 2224879, at *2; Cooper Cos., 31 Cal. App. 4th at 1100; Devin v. United Servs. Auto. Ass’n, 6 Cal. App. 4th 1149, 1157 n.5 (1992) (experts may testify on the factual issue of industry standards but cannot opine on what is covered under a policy); Suarez, 206 Cal. App. 3d at 1406.


190 See, e.g., Chaney, 2015 WL 12838839, at *5.
2. Conclusion

While there is a role for experts to play in bad-faith litigation, their testimony generally should be limited to filling gaps in the jurors' understanding of the insurance industry and claim-handling practices. Courts should be extremely wary of experts who lack real-world experience handling claims like those at issue in the case before them. Experts should not be allowed to invade the jury's prerogative to interpret the evidence and apply applicable legal principles and industry standards to the facts of the case. In particular, experts should not be allowed to act as a surrogate for the counsel who hired them, walking through the evidence and providing a narrative assessment of how the claim was handled. Nor should experts be allowed to give opinions that invade the court's role of instructing the jury on the law. In general, the scope of expert testimony in a bad-faith case should be limited to identifying any specialized terminology, practices, or standards at issue in the case and explaining them to the jury. Once the expert has provided that specialized knowledge to the jury, the jury is competent to perform its role as finder of fact.

C. Class Actions

The requirements for class certification in federal court are found in Federal Rule of Civil Procedure 23. The plaintiff must prove all four requirements of Rule 23(a): (1) numerosity, (2) commonality, (3) typicality, and (4) adequacy; and at least one of the requirements listed in Rule 23(b).\textsuperscript{191} Class actions seeking money damages generally fall under the rubric of Rule 23(b)(3), which requires that “questions of law or fact common to class members predominate over any questions affecting only individual members, and that a class action [be] superior to other available methods for fairly and efficiently adjudicating the controversy.”\textsuperscript{192}


\textsuperscript{192} Id. at 362 (quoting Fed. R. Civ. P. 23(b)(3)).
predominance inquiry is “even more demanding than Rule 23(a)”\footnote{Comcast Corp. v. Behrend, 569 U.S. 27, 34 (2013); see also Amchem Prods., Inc. v. Windsor, 521 U.S. 591, 609 (1997).}—and thus is often the central battleground in the dispute over class certification.

In addition, in some jurisdictions the plaintiff must show that the proposed class satisfies the requirement of ascertainability—meaning that the class must be defined based on objective criteria and that the plaintiff must demonstrate a method for identifying members of the class that “is reliable and administratively feasible, and permits a defendant to challenge the evidence used to prove class membership” without “individualized fact-finding or mini-trials.”\footnote{Carrera v. Bayer Corp., 727 F.3d 300, 307-08 (3d Cir. 2013); see also EQT Prod. Co. v. Adair, 764 F.3d 347, 358 (4th Cir. 2014); Karhu v. Vital Pharm., Inc., 621 F. App’x 945, 947-48 (11th Cir. 2015). But see Briseno v. Conagra Foods, Inc., 844 F.3d 1121, 1123 (9th Cir.) (holding that there is no requirement that a plaintiff demonstrate an administratively feasible means of identifying class members), cert. denied sub nom. ConAgra Brands, Inc. v. Briseno, 138 S. Ct. 313 (2017); Mullins v. Direct Digital, LLC, 795 F.3d 654, 658 (7th Cir. 2015) (same).}

The Supreme Court has repeatedly emphasized in recent years that Rule 23’s requirements represent more than “a mere pleading standard.”\footnote{Dukes, 564 U.S. at 350.} Rule 23 requires that a plaintiff seeking class certification “affirmatively demonstrate his compliance with the Rule” and that the district court conduct a “rigorous analysis” before finding the requirements satisfied.\footnote{Id. at 350-52 (internal quotation marks omitted).} And this rigorous analysis, the Court has explained, will often “overlap with the merits of the plaintiff’s underlying claim.”\footnote{Id. at 351; accord Comcast, 569 U.S. at 33.}
Given these requirements, and the critical significance of the class-certification stage to the case as a whole, parties supporting or opposing class certification often rely on—and challenge the other side's—expert evidence at the class-certification stage. For example, plaintiffs may proffer expert testimony in a products-liability case to prove that a product has a common defect; in an employment case to show that there is a common pattern or practice of discrimination; or in an antitrust case to demonstrate that class-wide anticompetitive impact can be established using common proof. Plaintiffs may also proffer expert testimony to develop a formula for assessing damages using class-wide proof or to propose how class members may be ascertained from available records. Defendants, in turn, routinely proffer experts to rebut the expert testimony submitted in support of certification and to buttress their showing that the core issues in the case are highly individualized and not amenable to class treatment.

Both sides, therefore, often accompany class-certification motion practice with motions challenging the admissibility of the other side's experts under Daubert. And in keeping with the Supreme Court's directive that district courts engage in a “rigorous analysis” at the class-certification stage, a growing number of federal courts have held that putative expert opinions at the class-certification stage are subject to a full Daubert analysis.

To begin with, the Supreme Court has suggested in three recent opinions that Daubert plays an important role at the class-certification stage—although the Court has not yet had occasion to elaborate on that suggestion.

First, in Dukes the plaintiff proffered the testimony of a sociological expert in an attempt to show that Wal-Mart's corporate decision making was “vulnerable to gender bias.”\(^{198}\) Wal-Mart had challenged the admissibility of the testimony...

\(^{198}\) Dukes, 564 U.S. at 354 (internal quotation marks omitted).
under *Daubert* but “the District Court concluded that *Daubert* did not apply to expert testimony at the certification stage of class-action proceedings.”\(^{199}\) The Supreme Court “doubt[ed] that is so,” also taking the time to point out that the expert’s “conclusions in this case have elicited criticism from the very scholars on whose conclusions he relies for his social-framework analysis.”\(^{200}\) But the Court did not decide the issue because the testimony, even if admissible, did “nothing to advance [the plaintiffs’] case” for certification.\(^{201}\)

Second, in *Comcast* the Court reversed a class-certification order on the ground that the plaintiffs’ antitrust damages model—which was the creation of expert testimony—did not match the theory of antitrust injury on which “liability in this action [was] premised,” and therefore plaintiffs had not met their burden of establishing Rule 23(b)(3) predominance.\(^{202}\) The admissibility of the expert’s testimony under *Daubert* was not directly resolved by the Court, which instead decided the case based on the unhelpfulness of the expert testimony in satisfying Rule 23.\(^{203}\) The Court’s reasoning, however, closely parallels the logic of *Daubert*’s requirement that an expert’s testimony “fit” the facts of the case. And the Court held that the Third Circuit had erred in holding that an “attack on the merits of the [expert’s] methodology had no place in the class certification inquiry.”\(^{204}\) That reasoning, the Court explained, would mean that “at the class-certification stage any method of measurement is acceptable so long as it can be applied

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199 *Id.*

200 *Id.* at 354 & n.8.

201 *Id.* at 354.

202 569 U.S. at 36.

203 See *id.* at 32 n.4.

204 *Id.* at 32 (alterations omitted; quoting *Behrend v. Comcast Corp.*, 655 F.3d 182, 207 (3d Cir. 2011)).
classwide, no matter how arbitrary the measurements may be.”

Third, in *Tyson Foods, Inc. v. Bouaphakeo*, the Supreme Court affirmed the certification of an opt-in collective action under the Fair Labor Standards Act and of a Rule 23(b)(3) class action for the plaintiffs’ state-law wage-and-hour claims. Certification was based largely on a study by the plaintiffs’ principal expert, who used videotaped observations of a sample of employees to estimate the average amount of time that employees in certain departments spent donning and doffing protective equipment and walking to and from their work stations. The Supreme Court recognized that “[r]epresentative evidence that is statistically inadequate or based on implausible assumptions could not lead to a fair or accurate estimate of the uncompensated hours an employee has worked,” but observed that the defendant “did not raise a challenge to [the plaintiffs’] experts’ methodology under *Daubert*; and, as a result, there is no basis in the record to conclude that it was legal error to admit that evidence.” This observation suggests that had the defendant raised a *Daubert* challenge at the class-certification stage, the lower court would have been required to engage in a *Daubert* analysis before ruling on certification. Indeed, the Court observed that inferring hours worked from similar studies is permitted in Fair Labor Standards Act cases “so long as the study is otherwise admissible.”

Absent a more definitive ruling from the Supreme Court on the applicability of *Daubert* at the class-certification stage, lower courts have reached divergent outcomes. Several

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205 *Id.* at 36.


207 *Id.* at 1048-49.

208 *Id.* at 1049 (citing Fed. R. Evid. 702).
federal courts of appeals, however, have now squarely taken the position that a full Daubert analysis is required at the class-certification stage.

For example in its pathbreaking opinion in American Honda Motor Co. v. Allen, the Seventh Circuit reversed a district court’s certification of a class in a products-liability case alleging that the steering assembly on the defendant’s motorcycles shook excessively. The plaintiff submitted the report of an expert who tested a single motorcycle and opined that the entire product line failed to adequately dampen the wobble. Honda moved to strike the report under Daubert, arguing both that the expert’s “wobble-decay” standard was unreliable and that the expert did not reliably apply it to the case because he tested only one motorcycle. The district court denied the motion without prejudice despite having “definite reservations about the reliability” of the testimony, reasoning that the proceedings were at an “early stage.” The district court then certified two classes.

The Seventh Circuit vacated and remanded, holding that “when an expert’s report or testimony is critical, as it is here, . . . a district court must conclusively rule on any challenge to the expert’s qualifications or submissions prior to ruling on a class certification motion.” The court concluded that “the district court must perform a full Daubert analysis before certifying the class if the situation warrants” and that failure to do so is an abuse of discretion. Two years later, another Seventh Circuit panel made clear that this requirement applies regardless of whether the district court ultimately

209 600 F.3d 813 (7th Cir. 2010).
210 Id. at 814.
211 Id. at 815 (internal quotation marks omitted).
212 Id. at 815-16 (citation omitted).
213 Id. at 816.
grants or denies class certification and regardless of which side’s expert is the subject of the *Daubert* challenge.\(^{214}\)

In the *Comcast* opinion that the Supreme Court later reversed, a divided Third Circuit panel had suggested, over a dissent, that district courts need not make a full *Daubert* determination at the class-certification stage, but instead need only evaluate whether “an expert is presenting a model which could evolve to become admissible evidence” and that is “plausible in theory.”\(^{215}\) But after the Supreme Court decided *Comcast*, the Third Circuit embraced the *American Honda* approach in *In re Blood Reagents Antitrust Litigation*.\(^{216}\) The panel in *Blood Reagents* held that the “could evolve” standard did not survive the Supreme Court’s *Comcast* decision and that *Comcast* and *Dukes* compel the conclusion that “a plaintiff cannot rely on challenged expert testimony, when critical to class certification, to demonstrate conformity with Rule 23 unless the plaintiff also demonstrates, and the trial court finds, that the expert testimony satisfies the standard set out in *Daubert*.”\(^{217}\)

The Eleventh Circuit likewise “consider[ed] the Seventh Circuit’s opinion in *American Honda . . . persuasive*” in *Sher v. Raytheon Co.*\(^{218}\) The case arose out of an alleged release of toxic waste into groundwater, and at the class-certification stage the plaintiffs presented the testimony of their damages expert, who opined that he could develop a regression model to determine class members’ diminution in property value.

\(^{214}\) See *Messner v. Northshore Univ. HealthSystem*, 669 F.3d 802, 811-14 (7th Cir. 2012) (holding that district court erred in not ruling on *Daubert* challenge to defense expert in an antitrust case before denying class certification).

\(^{215}\) *Behrend v. Comcast Corp.*, 655 F.3d 182, 204 n.13 (3d Cir. 2011) (internal quotation marks omitted).

\(^{216}\) 783 F.3d 183 (3d Cir. 2015).

\(^{217}\) *Id.* at 187.

\(^{218}\) 419 F. App’x 887, 890 (11th Cir. 2011).
without resorting to individualized consideration of each of the various properties.\textsuperscript{219} In rebuttal, the defendant introduced its own expert who challenged the methodology of the plaintiffs’ expert. The district court recognized the battle of the experts but declined to resolve it before certifying a class, reasoning that “an inquiry into the admissibility of Plaintiffs’ proposed expert testimony as set forth in \textit{Daubert} would be inappropriate, because such an analysis delves too far into the merits of Plaintiffs’ case.”\textsuperscript{220} The Eleventh Circuit reversed, concluding under \textit{American Honda} that district courts err “as a matter of law by not sufficiently evaluating and weighing conflicting expert testimony on class certification.”\textsuperscript{221}

The Ninth Circuit has also endorsed applying \textit{Daubert} at the class-certification stage. In \textit{Ellis v. Costco Wholesale Corp.},\textsuperscript{222} the Ninth Circuit held that the district court was correct to apply \textit{Daubert} to a “battle of the experts over the issue of commonality.”\textsuperscript{223} The Ninth Circuit further made clear that even if the testimony of a plaintiff’s expert is admissible, that does not mean that the plaintiff has satisfied the relevant requirements of Rule 23.\textsuperscript{224} The court thus vacated the district court’s order for analyzing Rule 23 commonality solely by reference to whether the testimony of the plaintiff’s expert was admissible under \textit{Daubert}.

In contrast to the above circuits, a divided panel of the Eighth Circuit held that a more “tailored” or “focused” \textit{Daubert} inquiry is all that is required at the class-

\textsuperscript{219} \textit{Id.} at 888-89.

\textsuperscript{220} \textit{Id.} at 889 (emphasis omitted).

\textsuperscript{221} \textit{Id.} at 890.

\textsuperscript{222} 657 F.3d 970 (9th Cir. 2011).

\textsuperscript{223} \textit{Id.} at 982.

\textsuperscript{224} \textit{Id.} at 981-82.
certification stage.\textsuperscript{225} The majority reasoned that class certification is tentative and that district courts therefore are not required to conclusively determine whether proffered expert testimony would be admissible at trial.\textsuperscript{226} Instead, the majority opined that it is enough for the district court to scrutinize the reliability of the expert testimony in light of “the current state of the evidence” and resolve expert disputes “only to the extent necessary to determine the nature of the evidence that would be sufficient, if the plaintiff’s general allegations were true, to make out a prima facie case for the class.”\textsuperscript{227}

A few recent examples of district courts applying \textit{Daubert} at the class-certification stage illustrate how the inquiry may play out in practice, and why a full \textit{Daubert} analysis is appropriate whenever reliance is placed on the opinions of an expert at that stage. Because the core rationale underlying \textit{Daubert} is that district courts have a “basic gatekeeping obligation” to review “all expert testimony” for admissibility,\textsuperscript{228} that obligation should be followed whenever a party is relying on expert opinions to support a claim or defense—including when a plaintiff seeks to demonstrate that the requirements of Rule 23 have been satisfied (or a defendant seeks to rebut that showing).

1. \textit{Cates v. Whirlpool Corp.}

In \textit{Cates},\textsuperscript{229} the two named plaintiffs moved to certify various classes of consumers who purchased allegedly defective ovens manufactured by Whirlpool. The plaintiffs proffered the testimony of an engineer in support of their

\begin{footnotesize}
\begin{itemize}
  \item \textsuperscript{225} \textit{See In re Zurn Pex Plumbing Prods. Liab. Litig.}, 644 F.3d 604, 611-14 (8th Cir. 2011).
  \item \textsuperscript{226} \textit{Id.} at 613-14.
  \item \textsuperscript{227} \textit{Id.} at 611, 614.
  \item \textsuperscript{228} \textit{Kumho Tire}, 526 U.S. at 147.
  \item \textsuperscript{229} 2017 WL 1862640 (N.D. Ill. 2017).
\end{itemize}
\end{footnotesize}
theory that all of the ovens at issue had a common defect that caused them to shut down during self-cleaning. The engineer tested only the two named plaintiffs’ ovens, and acknowledged that he did not test his theories of causation, but nonetheless opined that “all Ovens will fail during self-cleaning.” 230

The district court engaged in a complete Daubert inquiry, including a hearing, and held that the expert’s opinions were neither helpful nor reliable and thus were inadmissible. The opinions were unhelpful because they did not identify a specific common defect, instead “merely point[ing] to an undifferentiated mass of potential problems.” 231 “Without identifying a specific design defect and explaining how it is present in all Ovens,” the court explained, the plaintiffs’ expert “does not give an opinion that fits Plaintiffs’ class-certification argument.” 232

The opinions were also unhelpful because the expert ran tests only on the two named plaintiffs’ ovens; did not test ovens from other brands; did not offer an opinion as to an effective alternative design; and did not know what causes a specific oven to fail. 233 The court summarized: “To reach a conclusion that 2,000,000 Ovens contain a common defect based on the testing of only two ovens leaves too large a gulf in analytical reasoning to qualify as reliable, especially given the differences in the Ovens.” 234 The plaintiffs’ expert also ignored relevant data that did not support his theory, and this “cherry picking also demonstrates that he has developed his opinion expressly for the purposes of testifying, has not accounted for obvious alternative explanations, and has not

230 Id. at *10.
231 Id. at *12.
232 Id.
233 Id. at *13.
234 Id. at *14.
been as careful as an engineer would have been in his regular professional work.” Finally, the court held that, without their expert’s testimony, “Plaintiffs fail to demonstrate that the most important factual question in this case—whether the Ovens have an inherent design defect—is capable of classwide resolution.” The court therefore denied plaintiffs’ motion for class certification.


Lee-Bolton is a putative class action brought by owners of property near a former wood-treatment facility, alleging that their properties were contaminated as a result of chemical activities at the facility. The plaintiffs presented several experts in an attempt to convince the court that contamination could be shown on a classwide basis; that the wood-treatment facility was the cause of the contamination; and that remediation costs and diminution in property value from the stigma of contamination could be shown on a classwide basis. The defendants challenged the reliability of the opinions of the plaintiffs’ experts through their own experts, and each side challenged the admissibility of the other side’s experts under Daubert.

The court recognized that it was required to perform a “full Daubert” analysis “when an expert’s testimony is critical to the class certification.” And it concluded that the testimony of most of the plaintiffs’ experts was inadmissible under that analysis. For example, the testing method plaintiffs used was valid to establish the toxicity of certain compounds, but not for quantifying the amount of such compounds, as needed to show risk of harm under plaintiffs’

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235 Id. at *15.
236 Id. at *16 (internal quotation marks omitted).
238 Id. at 370.
239 Id. at 372-78.
theory. The court also faulted the experts’ opinions for lack of “scientific support” and “ipse dixit” conclusions.240

The court held that, without the opinions of the excluded experts, the plaintiffs failed to satisfy Rule 23. In particular, the court first held that plaintiffs had not proven an ascertainable class because there is no objective means for determining which property owners had contaminated homes short of “testing every individual home.”241 Relatedly, the plaintiffs failed to show that common questions predominated over individualized ones, given the individualized inquiries required to prove liability, causation, and damages.242


In Svenson,243 the plaintiffs alleged that Google provided mobile application developers with purchasers’ personal information (name, email address, and zip code) in violation of Google’s privacy policy. To support their theory that each member of the class lost the benefit of the bargain, the plaintiffs introduced the opinions of an economist, who conducted a survey asking individuals whether they would buy a hypothetical application at varying prices with varying levels of disclosure of their personal information.244 The expert opined based on the survey results that purchasers receive only eighty-six percent of their bargain when their name and email is disclosed. He also opined that the value of individuals’ personal information was diminished by the disclosure.

The court recognized that the Daubert standards “apply not only at trial, but also when a challenge to expert opinion

240 Id.
241 Id. at 383.
242 Id. at 384-86.
244 Id. at *5.
is brought in the context of class certification or summary judgment.” The court concluded that many of Google’s challenges to the expert’s opinions went to their weight, rather than their admissibility. But it did exclude the expert’s opinion on the lost benefit of the bargain because the expert himself admitted that he had failed to implement “the key design element in the survey.” The plaintiff argued that the error could be corrected by a new survey, but the court concluded that “speculation as to whether [the expert] could or could not provide a reliable opinion in the future has no bearing on Google’s challenge to [his] current opinions based upon flawed implementation.”

The court did admit the expert’s opinions about the market for personal information and its diminution in value, but that did not end the inquiry. Google also moved for summary judgment on the ground that the named plaintiff lacked the injury-in-fact required for Article III standing, because he had not shown that the alleged disclosure of his own information had caused a concrete harm. The court agreed and granted Google’s motion, noting that the expert’s opinions about markets for personal information in general did not provide adequate support to show that the value of the plaintiff’s own personal information was diminished. The court therefore denied the motion for class certification in light of its determination that the plaintiff “lacks Article III standing.”

In short, the Supreme Court’s decisions, the decisions of a majority of the courts of appeals to address the issue, and sound logic dictate that Daubert should be applied whenever

245 Id. at *4 (citing Ellis, 657 F.3d at 982).
246 Id. at *6.
247 Id. at *7.
248 Id. at *7, *9.
249 Id. at *17.
reliance is placed on the opinions of an expert witness—whether at trial, in opposition to summary judgment, or at the class-certification stage.

D. Valuation and Damages

Statistical, economic, and valuation testimony can often be critical aspects of a litigation, forming the basis for estimating the extent of injury and the valuation of damages. Such testimony affects a party’s willingness to go to trial, the amount of any settlement, and the magnitude of any verdict. Accordingly, it is essential that this testimony be based on reliable methods. Helpfully, the Supreme Court’s decision in *Kumho Tire* eliminated any doubt that the *Daubert* requirements and the requirements of Federal Rule of Evidence 702 apply fully to financial and quantitative experts.

An annual study conducted by PricewaterhouseCoopers confirms that courts are becoming increasingly receptive to *Daubert* challenges to economics or financial-damages experts. Between 2000 and 2017, 17.5% of all cases in which an expert’s opinion was challenged under *Kumho Tire* involved an expert in financial or quantitative issues (e.g., accountants, appraisers, and economists).\(^{250}\) Almost half of those challenges (45%) have led to either the exclusion or partial exclusion of the financial expert’s testimony, which may explain why the number of such challenges rose steadily over that period.\(^{251}\)

As with other experts, courts have a key gatekeeping role to play with respect to economic, valuation, and damages experts. Damages calculations can be dressed up with the language of economics, mathematics, and modeling, and can


\(^{251}\) *Id.* at 18.
provide the jury with a sense of precision and scientific reliability, which is often very difficult to challenge solely through cross-examination. Damages models that misapply accepted methodologies or opinions that are based on methodologies developed solely for litigation purposes threaten to turn the trial into a confusing battle of the experts. Such battles often turn on which expert presents with the most confidence or charisma, and not always on whose testimony is the most accurate. Further, damages models that are inflated by causal leaps made by an expert or by errors in an expert’s methods nonetheless can create an in terrorem effect on a defendant, leading to a coerced settlement if the court does not police the admissibility of such testimony.

Some courts have hesitated to exercise their gatekeeping function, reasoning that disputes about data, causation, and application of methodology “go to the weight” of the testimony, not its admissibility. But courts do a disservice to the principles announced in Daubert and Kumho Tire (and to the parties) by not more carefully assessing such economic and damages testimony and testing the viability of that testimony prior to trial through the Daubert process. If a court cannot determine, based on extensive briefing and even a hearing, whether a methodology is sound and based on valid data, a jury will have little chance of doing so at trial.

“The case law has extracted from Rule 702 three essential requirements: ‘qualification, reliability and fit.’” Qualification refers to the witness possessing specialized expertise. Reliability typically tests both whether the methodology is reliable (which is typically evaluated using a multi-factor test) and whether the data used in the methodology is reliable and of the type that an expert in the field would typically use. “Fit” requires that the expert opinion correspond to the issues in the case and assist the

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trier of fact. As courts have increasingly applied these requirements to the testimony of economic and damages experts over the last two decades, they have demarcated certain bounds meriting exclusion of expert testimony.

1. Experts Exceeding the Scope of their Expertise

Many courts “have liberally construed [the qualification] requirement, holding that an expert’s qualification can be based on a broad range of knowledge, skill, experience training or education.”\(^\text{253}\) Courts have stated that “it is an abuse of discretion to exclude testimony simply because the trial court does not deem the proposed expert to be the best qualified or because the proposed expert does not have the specialization the court considers most appropriate.”\(^\text{254}\) Based on this logic, courts have permitted economists to estimate damages resulting from a real-estate-investment scheme even without experience in real-estate development\(^\text{255}\) and have permitted a certified appraiser to offer a mass-appraisal of the impact of flooding using regression techniques even though he was not a statistician and lacked extensive training in the use of regression for mass appraisals.\(^\text{256}\)

Other courts have shown a greater willingness to examine the qualifications of the expert specific to the testimony being offered. For example, in \(\text{SEC v. Tourre}\)^{257} the court excluded an economics expert from testifying concerning the marketing


\(^{254}\) Burgett v. Troy-Bilt LLC, 579 F. App’x 372, 378 (6th Cir. 2014).

\(^{255}\) See Maiz v. Virani, 253 F.3d 641, 665 (11th Cir. 2001).


\(^{257}\) 950 F. Supp. 2d 666 (S.D.N.Y. 2013).
and selling of synthetic collateralized debt obligations (“CDOs”). Even though the expert was a former assistant professor in finance and business economics at the University of Southern California, had testified previously in a case involving CDOs, and had discussed CDOs in his class, the court noted that he had never structured, marketed, or invested in a CDO. The court “rejected … the possibility that [the expert’s] area of expertise is sufficiently proximate to the subject of his proposed testimony to overcome his lack of experience with structuring or marketing of CDOs.”

Economics and damages experts particularly run into difficulty when the subject of their opinions exceeds the scope of their expertise. For example, in Chartwell Litigation Trust v. Addus Healthcare, Inc. (In re Med Diversified, Inc.), the court held that a proffered expert with 20 years of experience as an accountant and experience as a liquidating agent and bankruptcy trustee was not a qualified business-valuation expert and therefore could not testify regarding the valuation of the subject business. Likewise, those untrained in economics have been precluded from testifying on damages issues when they lack the relevant background.

Although these results may be perceived by some as overly formalistic or exacting, they are consistent with the purpose and dictates of Daubert and Kumho Tire. Those decisions specifically noted that “Rules 702 and 703 grant expert witnesses testimonial latitude unavailable to other

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258 Id. at 677-78.


260 See Lifewise Master Funding v. Telebank, 374 F.3d 917, 918-29 (10th Cir. 2004) (excluding testimony of CEO who purported to calculate damages but lacked any experience creating damages models); Lamoureux v. Anazaohealth Corp., 2009 WL 1162875 (D. Conn. 2009) (precluding co-inventor of patent and CEO of plaintiff from testifying on damages, even though he held an MBA in Finance and was a certified management accountant, because he was neither an economist nor an expert on damages models).
witnesses on the ‘assumption that the expert’s opinion will have a reliable basis in the knowledge and experience of his discipline.’”261 To put it bluntly, witnesses testifying on topics beyond the areas in which they have relevant industry experience and training lack the discipline imposed by that experience and training. For example, an expert who has participated in the marketing and sale of synthetic CDOs is disciplined by his experience about what the market would expect and can be examined by counsel about that experience. An expert who has not participated in the marketing and sale of synthetic CDOs is untethered by experience and can offer opinions that sound informed but that have minimal meaningful support. Accordingly, it is a critical that courts ensure that juries are not improperly swayed by such experts.

2. Reliability of Methodology Used

In the context of economic, statistical, and damages experts, it is less often the case that the methodology itself is questioned, as opposed to the assumptions or data that are used by the expert to apply that methodology to the facts in the case. The methods used by economists and statisticians are often well-accepted: discounted cash-flow models, comparable benchmarks (for projecting business growth), before-and-after analyses (to estimate the impact of certain conduct), regression analyses, sampling techniques, and antitrust analyses for determining relevant markets (e.g., markets in which a monopolist could sustain a small but significant non-transitory increase in price) and market concentration (e.g., the Herfindahl-Hirschman Index).

Experts run into problems when they employ methods outside of those that are commonly used in the industry. For example, courts have held that the failure to use a discounted cash-flow model in valuing a business may be a proper

261 Kumho Tire, 526 U.S. at 148 (quoting Daubert, 509 U.S. at 592).
ground for excluding an expert’s testimony.262 In one case, a court rejected an expert’s use of what the expert termed a “Levered DCF method,” noting that the method had not been tested or relied upon by other experts, had not been subjected to peer review, had an unknown error rate, and had not been shown to have ever been accepted by any academic or professional community.263

Although instances of a court excluding economic or damages experts based on the methodology employed are sparse, that does not absolve courts of their obligation to screen out testimony based on methodologies that are novel or untested or that modify accepted methodologies in uncharted ways. Such testimony, cloaked in the language of finance and economics, can be particularly challenging for a lay jury to analyze. For example, a lay jury may not understand that the appropriate discount rate in a discounted cash flow (“DCF”) model must account for the cost of both equity and debt.264 Extended testimony from competing experts on the economic theory behind the DCF model is likely at best to provide a protracted tangent in any trial and at worst to hopelessly confuse the jury as to the appropriate measure of damages.

3. Testimony Based on Unreliable Data

Economics and damages experts are more frequently criticized for basing their testimony on unreliable data or data that were not verified by the expert. For example, in one recent case a court excluded an expert’s testimony on the decline in real-estate values, which was based on a regression


264 See id. (critiquing the expert’s proposed methodology for using a discount rate based only on the cost of equity and not the cost of equity and debt).
analysis with one significant outlier data point.\textsuperscript{265} The court on its own initiative reviewed the property behind that data point and found that it was the result of a bank reselling a foreclosed property. The court concluded that such a circumstance likely did not reflect a true arms-length transaction and that the data point should have been excluded from the regression analysis. Because that data point materially skewed the outcome of the analysis, the court excluded the expert from testifying about that analysis. The willingness of courts to so carefully evaluate the data underlying an expert’s testimony is fundamental to the fulfillment of the gatekeeping function. An experienced expert using an established statistical tool can nonetheless skew the results based on the data used for the analysis. And a jury would be ill-equipped to determine in the context of a trial on other issues whether it was appropriate for an expert to include a particular data-point in the regression.\textsuperscript{266}

Another common theme is the exclusion of expert testimony when the expert relies on the internal projections of one or both parties. For example, courts have criticized experts for relying on the “cheerful prognostications” of an entrepreneur as the basis for a damages projection.\textsuperscript{267} Exclusion of testimony that is based only on such internal projections is somewhat common.\textsuperscript{268} Even when the projection

\textsuperscript{265} Navelski, 244 F. Supp. 3d 1275.

\textsuperscript{266} Another court similarly excluded expert testimony projecting certain revenues and profits, where the revenue projections were based on only five data points, and the profit rate was calculated without considering the relevant historical profit margins of the plaintiff. RFMAS, Inc. v. Mimi So, 748 F. Supp. 2d 244, 274 (S.D.N.Y. 2010).

\textsuperscript{267} Celebrity Cruises, Inc. v. Essef Corp., 434 F. Supp. 2d 169, 184 (S.D.N.Y. 2006) (excluding expert testimony where projection of profits was based on company’s own five-year projections).

\textsuperscript{268} See, e.g., Zenith Elecs. Corp. v. WH-TV Broad. Corp., 395 F.3d 416, 420 (7th Cir. 2005) (a party’s “internal projections . . . rest on its say-so rather than a statistical analysis” and “represent hopes rather than the results of scientific analysis”); Legendary Art, LLC v. Godard, 888 F. Supp. 2d 577...
is one that was put forward by the opposing party or when the two parties had agreed on a business plan that included the relied-upon estimates, courts have held that reliance on such estimates without some effort to independently verify the projection is a sufficient basis to exclude expert testimony.269

Rulings of this sort are necessary to ensure that the expert actually assists the jury rather than bamboozles it. As one court noted, the saying “garbage in, garbage out” explains why striking expert evidence due to its reliance on questionable data is not a novel course of action among Pennsylvania federal courts.270 Although it may be tempting to believe that a jury could understand that certain critical data may be unreliable, it can often be quite difficult to overcome the anchoring effect of an expert-sponsored number even if questions are raised about key inputs. While the jury may conclude that the input data were not reliable, there may be little other guidance about what a reasonable input might be. The jury is effectively left to engage in guess-work—with the expert-sponsored number as an illegitimate starting point. As


269 See Bruno v. Bozzuto’s, Inc., 311 F.R.D. 124 (M.D. Pa. 2015) (excluding expert testimony where expert’s adopted financial projections included pro forma calculations prepared by opposing party without understanding the purpose of the pro forma or conducting diligence on the numbers); Otis v. Doctor’s Assocs., Inc., 1998 WL 673585, at *1 (N.D. Ill. 1998) (excluding expert testimony “based exclusively on projections contained in [the parties’ business agreement]”).

270 See Bruno, 311 F.R.D. at 137.
the cited decisions recognize, the right response is to exclude the testimony.

4. Causal Linkages Fitting Damages to Liability Theories

Expert testimony should also be closely scrutinized to ensure that the expert has properly tailored his or her damages estimate to the alleged conduct giving rise to the claim. This issue frequently arises in cases involving intellectual property, when a component of a product may infringe a patent or other IP right and the expert must determine the degree to which the alleged infringement affected the sales for the product itself. It also arises frequently in antitrust cases, when the expert is called upon to assess the lost sales associated with anticompetitive conduct but fails to adequately separate out the effect of other, permissible market events.

In many cases, courts will look to substantive-damages law to police proffered damages calculations that are insufficiently tied to the specific portion of a product that is the subject of the invention. In other cases, courts may hold that the damages opinion of an expert who has not identified the causal link between the conduct at issue and the damages

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271 See, e.g., *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1318 (Fed. Cir. 2011) (holding that a patentee “must in every case give evidence tending to separate or apportion the defendant’s profits and the patentee’s damages between the patented feature and the unpatented features” and that such evidence must be “reliable and tangible . . . not conjecture or speculative”); *LaserDynamics v. Quanta Computer, Inc.*, 694 F.3d 51, 68 (Fed. Cir. 2012) (the expert must apportion down to the “smallest salable patent-practicing unit” closely tied to the patent at issue); *Dynetix Design Sols., Inc. v. Synopsys, Inc.*, 2013 WL 4538210, at *3 (N.D. Cal. 2013) (further apportionment is required “even when there the accused product is the smallest salable unit . . . [if] the smallest salable unit is [] still a multi-component product encompassing non-patent related features”).
A key part of a damage expert’s job is to develop a model that reasonably estimates the financial impact of the alleged misconduct. By failing to isolate damages to the misconduct, the expert has fundamentally failed in his or her job. Informing a jury that a plaintiff has lost $1 million in sales, some of which may be attributed to the defendants’ conduct, is of no help to the jury in determining the amount of damages to award and risks prejudicing the defendant by suggesting to the jury that some substantial portion of that amount is attributable to the defendant’s conduct. It is for this reason that a court’s gatekeeping function is so critical.

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In short, the dictates of *Daubert* and *Kumho Tire* apply equally to financial, statistical, and economic experts. Courts are increasingly using those tools to weed out testimony that would be unreliable and unhelpful to a jury. Experts who testify beyond their own expertise, who use untested methodologies or improper data, or who do not properly measure the impact of the alleged misconduct should not be permitted to influence the jury’s determination. Failing to

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272 See, e.g., *Rembrandt Soc. Media, LP v. Facebook, Inc.*, 22 F. Supp. 3d 585, 595 (E.D. Va. 2013) (holding that expert apportioned damages improperly, that the testimony would be unreliable under *Daubert*, and that allowing such inflated numbers before a jury would be prejudicial even given the opportunity for cross examination.); *Champagne Metals v. Ken-Mac Metals, Inc.*, 2008 WL 5205204, at *9-11 (W.D. Okla. 2008) (excluding expert testimony where expert calculated damages based on both products that were subject of the antitrust claim and products that were not subject of the claim without offering a reason for including the second category of products); *El Aguila Food Prods., Inc. v. Gruma Corp.*, 301 F. Supp. 2d 612, 624 (S.D. Tex. 2003) (excluding expert testimony where all lost sales were attributed to anticompetitive conduct and effects of other competition were not taken into consideration); *Concord Boat Corp. v. Brunswick Corp.*, 207 F.3d 1039, 1056-57 (8th Cir. 2000) (holding that district court erred in not excluding testimony of expert who did not distinguish losses caused by anticompetitive conduct from losses caused by other market events).
exclude such testimony can create substantial pressure on a party to settle an otherwise meritorious case. And relying on cross-examination with respect to complicated financial and statistical analyses may at best result in a confusing and unnecessary detour at trial into the details of a complicated financial model and more often may result in improperly swaying a jury’s ultimate verdict.