



BY RODERICK KENNEDY

# Stare Decisis Is Not Scientific

## A CAUTIONARY TALE FROM TWO CASES

Within a year of *Daubert* being decided, a prominent evidence scholar pointed out that in criminal cases, “[c]ourts never required some of the most venerable branches of forensic science—such as fingerprinting, ballistics, and handwriting—to demonstrate their ability to make unique identifications.”<sup>1</sup> Little changed in the intervening 22 years. Last fall, the President’s Council of Advisors on Science and Technology (PCAST) reviewed the state of pattern-matching forensic science in the United States, and concluded that it still presented two critical gaps to be addressed before its validity could be ensured in the nation’s legal system: (1) the need for clarity about the scientific standards for the validity and reliability of forensic methods, and (2) the need to evaluate specific forensic methods to determine whether they have been scientifically established to be valid and reliable.<sup>2</sup>

Forensic science evidence continues to be admitted, with and without critical judicial evaluation by courts. Remnants of the old but static *Frye* test<sup>3</sup>—acceptance of a methodology as valid within its relevant scientific community—still carry much weight with judges. This continues, even as observers such as the National Academy of Sciences and PCAST have clearly pointed out significant problems with forensic disciplines, including a lack of statistical rigor to justify stating results, or repeated and objective testing to ascertain an ability to reliably produce results at all. These criticisms, of course, come from outside of the “relevant scientific community” (practitioners) as *Frye* used the term, although external evaluation of the reliability of scientific assertions headed to court is also essential to objective judicial gatekeeping.

A recent article written by Australian law professors, forensic scientists,

and behaviorists and appearing in the British forensic journal *Science & Justice* noted that “[c]ourts . . . have been unwilling to exclude forensic science evidence where serious threats to conclusions were not addressed or even disclosed.”<sup>4</sup> The authors commented further that with occasional exceptions, such as *United States v. Monteiro*<sup>5</sup> in this country, “legal resolution [of admissibility questions] has not been informed by mainstream scientific knowledge or consistent. Lack of systematic engagement with scientific research tends to be a hallmark of legal decision-making.”<sup>6</sup>

Observers of criminal cases who waited for a “revolution” in courts’ approach to scientific and technical evidence following the expected demise of *Frye* that was heralded for civil cases by *Daubert*<sup>7</sup> and *Kumho*<sup>8</sup> may note a less than revolutionary attitude toward the “forensic” sciences in criminal cases.<sup>9</sup> This article intends to briefly explore, through two intertwined cases, dimensions of a remaining artifact of the old regime—“general acceptance”—that in some instances, even under *Daubert* and *Kumho*, may be a judicial surrogate for uncritical gatekeeping. It concludes that in the face of judicial general acceptance based on stare decisis, the role of the opponent of evidence will have to be active and vigorous in the face of judicial inertia.<sup>10</sup>

### A Tale of Two Cases

*Monteiro* was a case concerning toolmark evidence on cartridge casings. The defense sought to exclude testimony associating toolmarks on the casings with firearms linked to the defendants, and the court granted an extensive *Daubert* hearing on the question of the toolmarks’ admissibility. The court noted that, “[f]or decades, both before and after the Supreme Court’s seminal decisions in *Daubert* and

*Kumho Tire*, admission of the type of firearm identification testimony challenged by the defendants has been semi-automatic; indeed, no federal court has yet deemed it inadmissible.”<sup>11</sup> This was due in part, according to the district court, to courts being “gun shy” about rejecting evidence that had been admitted without question for such a long period of time.<sup>12</sup> Despite the august background cited for toolmark expertise, the district court in *Monteiro* specifically noted with disapproval the government’s suggestion that because the expertise had passed without question for so long, the burden should shift to the defense to prove its unreliability.<sup>13</sup> It specifically held that a trial court has the obligation of independently assessing the reliability of proffered evidence, and in that process, “the burden of proof with respect to reliability remains on the proponent of the evidence.”<sup>14</sup> Ultimately, after much evaluation of standards for reporting results in the toolmark field, the court excluded the expert’s testimony that he could identify a cartridge case to its source with 100 percent certainty. Giving such a probability was found to be inconsistent with accepted practice in a discipline where evaluation was largely subjective, and where the methodology had not been replicated or validated to support a statistical or scientific basis for testimony to any degree of certainty.<sup>15</sup>

A 2010 New Mexico case, *State v. Fuentes*,<sup>16</sup> quoted the language in *Monteiro* and a 1948 New Mexico case<sup>17</sup> to establish the venerable and judicially unassailed nature of toolmark evidence to affirm a trial court’s denial of a *Daubert* hearing. In *Fuentes*, the expert had testified that “the gun found in Defendant’s car was the gun used to shoot Victim to the exclusion of all other guns.”<sup>18</sup> Despite a defense motion to exclude such testimony based on an assertion of unreliability,

the district court found that the “science in question could properly be taken for granted” based on its general acceptance.<sup>19</sup> New Mexico is a *Daubert* state, and the appellate court noted that nothing beyond general acceptance, which would ordinarily be insufficient grounds for admission, had been mentioned by the trial court in support of the evidence. However, the appellate court found that the science in question was well established, based on a 1948 New Mexico case holding that “modern science” recognized that matching cartridges to guns was “almost, if not an exact science.”<sup>20</sup> The court of appeals concluded the issue by holding:

Where the science underlying an expert’s testimony may properly be taken for granted because the reliability of the science in question has long been accepted, a defendant must make an affirmative showing that there is some reason to doubt the reliability of that science before a district court is obligated to require a reliability hearing.<sup>21</sup>

The New Mexico Court of Appeals did not pull this “taken for granted” idea out of thin air to justify shifting the burden from the proponent to the opponent of the evidence, but rather relied on a prior case where it had cited a statement from *Kumho*: “[A] trial court retains discretionary authority needed both to avoid unnecessary reliability proceedings in ordinary cases where the reliability of an expert’s methods is properly taken for granted, and to

require appropriate proceedings in the less usual or more complex cases where cause for questioning the expert’s reliability arises.”<sup>22</sup> With this, the court of appeals had a perfect storm; without the defendant’s putting forth more than a “mere assertion” of the unreliability of the expertise in question, the fact that the expertise in question had been a near-exact science since 1948 allowed it to be taken for granted. In such a situation with *Kumho*’s support of judicial economy in cases with such strong evidence, the court had license to shift *Daubert*’s burden from the proponent of evidence to its opponent.

*Fuentes* may have been an example of a law clerk finding the perfect quotation to justify an outcome without reading the underlying case (or noting the similarity between the experts’ expressed opinions). On the other hand, *Fuentes*, by virtue of the lack of a trial record beyond an assertion of general acceptance (which it recognized as of no legal effect), resolved the matter by observing that *Kumho* allowed for saving time where the subject of the testimony can be properly taken for granted, especially where there is no particularized objection by the defense to the evidence. On the merits, then, where the government’s burden to establish reliability in theory and method remains intact in *Monteiro*, a court’s enforcing that burden cannot be taken for granted. *Fuentes* then becomes a polar opposite of *Monteiro*. The latter, being a trial court memorandum and order from an extensive *Daubert* hearing, had the advantage of being the trial record, which set out in minute detail the process and findings leading to the court’s ultimately excluding the testimony.

### Differing Methodology Holds the Key

Obviously, the defense in *Monteiro* was vigorous, and well prepared. The *Daubert* hearing and its findings as set out in the memorandum and order were extensive. After exhaustive discussion about the standards and practice of toolmark examination, presented by both sides, the court concluded that the forensic methodology of identifying toolmarks to a source was reliable, and

that the expert was properly qualified on the basis of his training, experience, and proficiency testing. The evidence included detailed analysis of both the practice of toolmark identification and the process of generating and expressing an opinion as to the result of examinations.

Based on those methods and practices, it was the expert’s confident expression of a match with absolute certainty that was outside the accepted norm for “documentation and peer review in the ballistics field.”<sup>23</sup> The court also found that a dispute concerning the effect of using replacement parts to get the gun in question to fire and produce exemplars went to the weight of the evidence. These two factors required exclusion of the expert opinion.<sup>24</sup> The matter was left open should the government find a way to correct the faults in the expert testimony.

### Looking Down the Road

Burden shifting and avoidance of full-blown *Daubert* hearings can be a slippery aspect of judicial gatekeeping. *Daubert* and the cases that followed have universally affirmed the proposition that the proponent of expert testimony carries the burden of establishing that both its methods and its conclusions are reliable. However, as the *Kumho* quote used in *Fuentes* demonstrates, avenues for avoiding this responsibility are also provided in the federal jurisprudence. In the few remaining *Frye* states, finding that only novel science requires evaluation or requiring direct proof that a method or technique is no longer accepted by the relevant scientific community can leave questions about evidentiary reliability unanswered; an evidentiary tie may well go in favor of admission. Professor Berger in her 1994 article noted that “the accused may be more handicapped in challenging expert scientific proof . . . because of less extensive discovery rights, fewer resources, and because the prosecution may have a somewhat vested interest if it participated in creating and applying the forensic technique in question.”<sup>25</sup> For example, the only relevant communities for microscopic hair

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analysis and voice prints, both now on the dung heap of forensic history, were generally no more numerous than their practitioners.

The best defense is a good offense. Resting solely on the proponent's burden of proving reliability is less likely to be a successful defense to questionable expert testimony than assembling an objection utilizing the huge range of materials available concerning best practices as to the nature, underlying theories, practice, and expression of results that are part of any scientific discipline. These materials are essential to express the basis for the objection, as well as to educate the court on how to assess the limitations on the probative value of the evidence. *Monteiro* provides a decent procedural road map for using the information. *Fuentes* serves as a road sign as to both where danger lurks should an uncritical court wish to avoid difficult questions, and the perils of not being aggressive in pursuing forensic foibles. ♦

## Endnotes

1. Margaret A. Berger, *Procedural Paradigms for Applying the Daubert Test*, 78 MINN. L. REV. 1345, 1354 (1994).

2. PRESIDENT'S COUNCIL OF ADVISORS ON SCI. & TECH., FORENSIC SCIENCE IN CRIMINAL COURTS: ENSURING SCIENTIFIC VALIDITY OF FEATURE-COMPARISON METHODS 1 (2016) [hereinafter PCAST REPORT].
3. *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923).
4. Gary Edmond et al., *Thinking Forensics: Cognitive Science for Forensic Practitioners*, 57 SCI. & JUST. 144, 145 (2017).
5. 407 F. Supp. 2d 351 (D. Mass. 2006).
6. Edmond et al., *supra* note 4, at 145.
7. *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993).
8. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137 (1999).
9. PCAST REPORT, *supra* note 2, at 22.
10. In reading this article, imagine the dynamic of trial adversaries calling dueling witnesses who present diametrically opposed opinions based on venerable and mostly judicially unquestioned—but now seriously questioned—forensic disciplines. Bitemarks, perhaps. See *State v. Hodgson*, 512 N.W.2d 95 (Minn. 1994) (holding that bitemark comparison is not novel and is routinely admitted; thus, no *Daubert* foundation was required).
11. *Monteiro*, 407 F. Supp. 2d at 364.
12. *Id.*
13. *Id.* at 356.
14. *Id.*
15. *Id.* at 374.
16. 228 P.3d 1181 (N.M. Ct. App. 2010).
17. *State v. Martinez*, 198 P.2d 256, 260 (N.M. 1948) (observing that modern science has established that “[t]he tracing of a bullet to the particular weapon from which it was discharged, by identifying the marks on the bullet with the physical features of the weapon” is almost, if not an exact science).
18. *Fuentes*, 228 P.3d at 1183.
19. *Id.* at 1187.
20. *Id.* (quoting *Martinez*, 198 P.2d at 260).
21. *Id.* at 1188.
22. *Id.* at 1187 (citing *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 153 (1999)).
23. *United States v. Monteiro*, 407 F. Supp. 2d 351, 355 (D. Mass. 2006); see NAT'L RESEARCH COUNCIL, NAT'L ACAD. OF SCI., STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD 155 (2009) (using toolmark examination as an example of a discipline inclined to overstate the probative value of its results where error rates and statistical validation were not known).
24. *Monteiro*, 407 F. Supp. 2d at 355.
25. Berger, *supra* note 1, at 1352–53.