The admissibility of expert evidence in criminal proceedings should be more stringent—not less—than in civil cases, yet that does not appear to be the case some 20 years after the U.S. Supreme Court issued its seminal ruling in *Daubert*, attorney J. Michael Showalter says in this BNA Insight.

As part of his review of *Daubert* in criminal cases, the author questions the increased emphasis on the “flexibility” of the admissibility test, and concludes that “it is time for courts to again emphasize that *Daubert* requires ‘scientific validity’ and that ‘general acceptance’ is not enough.”

*Daubert*'s Failure: How One Factor Triumphed Over the Rest for Forensic Evidence

This year marks the 20th anniversary of *Daubert v. Merrell Dow Pharmaceuticals*. The legal community thinks of *Daubert* as the decision that bars “junk science,” which it has largely done in civil cases. *Daubert* provided a new standard for evaluating whether scientific experts should be permitted to testify before a jury. Before *Daubert*, scientific testimony was generally evaluated under the so-called “general acceptance” standard, which permitted an expert to testify so long as his or her testimony was based on science which was “generally accepted” by the scientific comm-

3 Applying Fed. R. Evid. 702, *Daubert* permits scientific testimony that will “assist the trier of fact to understand or determine a fact in issue.” See 509 U.S. at 592. Scientific testimony is permitted so long as a theory or technique: (1) can, or has been, tested; (2) has been subject to peer review and publication; (3) has a known or potential rate of error and the extent and maintenance of standards controlling the technique’s operation; and (4) is accepted within the relevant scientific community. *Id.* at 593-94.
munity in which the expert was a member. Daubert replaced “general acceptance” with a multi-factor analysis to establish whether the expert’s conclusions rested on a reliable foundation.

The truth that Daubert provides a means to challenge “junk science” may not be universal because, in many instances, the standards change dramatically depending on context. In civil cases, Daubert is applied literally, as containing a four-part rule, with each part functioning independently.

In criminal cases, particularly in cases involving forensic comparisons of fingerprints, evidence continues to be admitted, sometimes without analysis, because it was historically admissible. However, Daubert provides no basis for treating old and new techniques differently. Further, that long-term admissibility of certain types of evidence now trumps whether or not such evidence can be established as scientifically reliable illustrates how exceptions can triumph over rules given enough time.

Daubert says that scientific evidence should be admitted if it is “scientifically valid.” Under Daubert, “‘Valid’ evidence exists where it is the product of principles that support what [the evidence] purports to show.” This is a lenient approach that permits admissibility of some “shaky” evidence, at least where the evidence can be challenged through processes like cross-examination. In the civil context, Daubert evaluations tend to emphasize empirical testing and concepts like falsifiability, refutability, and testability. In this context, Daubert requires courts to act as gatekeepers, permitting scientific evidence where it is enlightening, but excluding it where there is a danger it is misleading.

### Fingerprint Comparisons as Scientific Evidence

In criminal cases involving forensic testimony, Daubert tends to be applied differently even though it is well-recognized that “forensic evidence is not uniquely immune from the risk of manipulation.” “Serious deficiencies have been found in the forensic evidence used in criminal trials.” As every viewer of prime-time police procedurals knows, many criminal cases turn on testimony matching a defendant’s fingerprints or handwriting to those found at the scene of a crime. The level of scientific study of these areas is in marked contrast to other areas of forensic science, notably DNA analysis, which is viewed as a “gold standard” in forensic science. Similarly, the scientific basis for medical, toxicological, or hygiene-related evidence is more firmly established than is the basis for forensic disciplines like fingerprinting.

Courts have evaluated criminal forensic evidence for more than a century. Fingerprints were first admitted as scientific evidence in 1911, more than 80 years before Daubert. In recent years, to become qualified as a fingerprint examiner under the “ACE-V” standard created by the FBI requires passing a test that involves comparing known fingerprint samples to unknown samples. The key premise underlying this test—that fingerprints are unique to particular individuals and not shared across the population—has not been empirically validated to the same scrutiny as have been other types of scientific evidence evaluated by the courts. This has been recognized as a problem, most recently in a 2009 study conducted by the National Research Council and the National Academy of Sciences. The lack of empirical evaluation has resulted in testimony including that the discipline has a “zero” error rate even though government studies have found such claims to be untrue.

### Decisions Evaluating Whether Fingerprint Comparisons Are Admissible

Daubert emphasizes that Federal Rule of Evidence 702 requires expert testimony to be “the product of reliable principles and methods.” As was discussed above, the NAS Report—issued almost a decade after Daubert—revealed that studies demonstrating the reliabil

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5. See Daubert, 509 U.S. at 589-94.
6. Id. at 590-600 (internal quotation omitted).
7. Id. at 590 n.9, 596.  
9. Id. at 2537.
ability of fingerprint evidence have not been conducted. Nevertheless, even though many scientific questions remain unanswered, courts evaluating Daubert challenges routinely reject them and permit testimony on fingerprint comparisons.

In the Fourth Circuit’s decision in United States v. Crisp, the defendant argued that the premises underlying fingerprinting evidence have not been adequately tested, that there is no known rate of error for latent fingerprint identifications, that fingerprint examiners operate without a uniform threshold of certainty required for a positive identification, and that fingerprint evidence has not achieved general acceptance in the relevant scientific community. Instead of directly addressing these concerns, the court simply stated that fingerprint evidence had long been admissible:

While the principles underlying fingerprint identification have not attained the status of scientific law, they nonetheless bear the imprimatur of a strong general acceptance, not only in the expert community, but in the courts as well... [F]ingerprinting techniques have been tested in the adversarial system, that the individual results are routinely subject to peer review for verification, and the probability of error is exceptionally low.

In the years since Crisp, courts throughout the country have without exception continued to admit fingerprint identification testimony after Daubert. In its 2004 Mitchell decision, the Third Circuit, in admitting fingerprint testimony, appeared to conduct an exhaustive Daubert analysis, but in reality just relied on Crisp’s presumption of admissibility as the full Daubert analysis would have precluded the admission of fingerprint evidence. On whether fingerprint evidence has been tested, the court found as follows:

[If directed, specific actual testing were the requirement of Daubert, we might be hesitant to find this factor weighing in favor of the government... But] the hypotheses that undergird the discipline of fingerprint identification are testable, if only to a lesser extent actually tested by experience, and so we find this factor to weigh in favor of admitting the evidence.

On whether peer review supported admissibility, the court held that “the publication facet of peer review is not a strong factor, and neither reinforces nor detracts from our conclusion that the peer review factor favors admission.” The court then acknowledged that no error rate had been specifically identified, and held that the controlling standards prong of the Daubert test was not sufficiently met by ACE-V. Finally, citing Crisp, the court held that ACE-V’s general acceptance in the forensic community weighed in favor of the fifth Daubert factor. Despite its finding that only two of five factors—general acceptance and error rate—were fully satisfied by ACE-V, and despite the fact that by conventional civil court standards those factors would not be considered met, the court admitted the testimony.

In its 2009 Baines decision, the Tenth Circuit performed a similarly perfunctory Daubert analysis. The Baines court held that although “testing of fingerprint analysis... mostly falls short of the rigorous demanded by the ideals of science... the core proposition—that reliable identifications may be made from comparison of latent prints with known prints—is testable. And... has been subject to testing, albeit less rigorous than a scientific ideal, in the world of criminal investigation, court proceedings, and other practical applications.”

While the court found that fingerprinting had not been subject to peer review, it accepted that it had a known error rate because the witness providing the fingerprint identification testified to always having attained a perfect score in his proficiency tests, and that the FBI’s ACE-V method had an error rate of one per every 11 million cases. As with the other cases, the “general acceptance” of the practice appears to have driven the court’s decision. “While... acceptance by a community of unbiased experts would carry greater weight, we believe that acceptance by other experts in the field should also be considered. And when we consider that factor with respect to fingerprint analysis, what we observe is overwhelming acceptance.”

In conclusion, the court noted that Daubert’s factors were intended to be applied “flexibly.”

As the years have progressed, Daubert’s “flexibility” appears to have trumped the other factors the Court discussed as being the hallmarks of scientific reliability (and thereby admissibility). This “flexibility” is discussed at length in a 2010 opinion by the Eastern District of Virginia in United States v. Aman, which indeed conducts no factor-by-factor analysis. In its place, the court gave a brief overview of the Daubert, specifically noting the “flexibility” language:

Although the Supreme Court in Daubert recognized that testing, peer review, the existence of a known error rate or controlling standards, and the general acceptance of the relevant scientific community may establish that testimony is based on ‘reliable principles and methods,’ the Supreme Court expressly cautioned that ‘[m]any factors will bear on the inquiry, and we do not presume to set out a definitive checklist or test,’ emphasizing that ‘the inquiry envisioned by Rule 702 is... a flexible one.

The Aman court admits fingerprint testimony based solely on the general acceptance of ACE-V among law enforcement professionals:

While the absence of a known error rate, the lack of population studies, and the involvement of examiner judg-
ment all raise important questions about the rigorousness of friction ridge analysis . . . , the issues defendant raises concerning the ACE–V method are appropriate topics for cross-examination, not grounds for exclusion . . . . Furthermore, it can hardly be questioned that the ACE–V method has achieved widespread acceptance in the fingerprint examination community . . . . In sum, the ACE–V method, although perhaps not worthy of the pedestal on which it has been historically placed, is sufficiently reliable to overcome Daubert’s bar to admissibility.

Aman is by no means an outlier. In the recent decision in United States v. Herrera, the Seventh Circuit similarly admitted fingerprint identification testimony without performing the traditional factor-by-factor Daubert analysis. Instead, the court found simply that where the government’s witness was a certified fingerprint examiner with extensive training, and errors in fingerprint matching by expert examiners “appear[ed]” to be rare, the fingerprint testimony was sufficiently reliable to be probative.35

Implications for an Evaluation of Daubert

Admissibility of evidence in criminal proceedings by all accounts should be more stringent—not less—than admissibility in civil cases. Innocent people can go to jail when courts improperly admit testimony.36 The Constitution guarantees criminal defendants “an opportunity to be heard” with a “meaningful” opportunity to respond to government proof.37 The problem discussed in this article cannot fully be solved by the courts. Instead, the problem is that certain areas of the forensic sciences like fingerprints and handwriting identification have not been the focus of appropriate research. The scientific community should have means to sort unsubstantiated from substantiated propositions.38 For some forms of forensic evidence like DNA evidence error rates are known.39 Some commentators have suggested that error rates could be used as the linchpin of scientific reliability, and thereby admissibility.40

That solution, however, would require a rethinking of some of the language in Daubert. The courts that have used a perfunctory application of the Daubert factors which are intended to evaluate reliability by relying on Daubert’s “flexib[ility]” language remain faithful to the spirit of that part of the decision intended to liberalize the admission of evidence.41 However, that both trial and appellate courts now generally skip analyzing whether fingerprint evidence is reliable even in light of the NAS Report’s indications that such evidence lacks sufficient analysis is troubling and suggestive that—at least in the criminal context—a more thorough judicial analysis of the reliability of fingerprint evidence may be required. Perhaps it is time for courts to again emphasize that Daubert requires “scientific validity” and that “general acceptance” is not enough.

34 United States v. Herrera, 704 F.3d 480 (7th Cir. 2013).
35 Id. at 486–487.
40 Munia Jabbar, Overcoming Daubert’s Shortcomings in Criminal Trials: Making the Error Rate the Primary Factor in Daubert’s Validity Inquiry, 85 NYU L. Rev. 2034, 2061-63 (2010).
41 Daubert, 509 U.S. at 580.