Developments in the Law of Scientific Evidence: The Admissibility of Polygraph Evidence

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I. Introduction

Although administrative law judges are free from many of the more technical strictures of evidence law, they are guided by the evidence rules that govern in their jurisdictions, and are strongly influenced by developments in evidence law. The lawyers who appear in administrative hearings often are accustomed to the formal requirements, as well as the habits of thinking associated with the rules of evidence, even as they understand that such rules may not be binding in an administrative hearing. Administrative law judges are apt to look to the rules for guidance on difficult or novel issues in order to better assure an outcome that can withstand appellate scrutiny, especially when their decisions are rendered in the context of a formal adversarial adjudicatory proceeding.

This decade has seen significant development in the rules surrounding the admissibility of scientific evidence. In 1993, the United States Supreme Court decided the case of Daubert v. Merrell Dow Pharmaceuticals, Inc. Daubert set out new principles for the admission of scientific evidence, rejecting an approach that had prevailed in most jurisdictions since 1923. This earlier regime, based on the district court case of Frye v. United States, provided a standard
for determining the admissibility of scientific evidence that had widespread acceptance throughout a remarkably long tenure (as evidentiary doctrines go). Although the Frye standard had serious shortcomings, the transition from Frye to Daubert has been unsettling for lawyers, judges and those in the scientific community who interact with the courts.

The Frye case is usually cited for setting out a general standard for the admissibility of scientific evidence. It is often forgotten, however, that the scientific evidence at issue in Frye itself was the result of a primitive polygraph examination, and the precise holding in Frye was that such evidence was not admissible because the technique had not met a standard of "general acceptance" in the relevant scientific community. Most courts adopted this approach to polygraph evidence. After Daubert was decided, and the "general acceptance" requirement became only one factor to be considered in the admission of scientific evidence, questions were raised about whether a new look at polygraph results, examined under the new standards, might yield a different result.

In March of 1998, the United States Supreme Court decided the case of United States v. Scheffer, which upheld as constitutional a military evidence rule prohibiting the admission of polygraph evidence. This case provides a window into the Supreme Court's thinking about the application of Daubert standards and the admissibility of polygraph results. The holding in Scheffer is limited, however, and leaves many questions unanswered. Courts will undoubtedly continue to wrestle with this issue for some time.

This article describes the developments in this area of the law,

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4 See infra at 173.
5 The Ninth Circuit Court of Appeals on remand of Daubert took a "deep breath" before undertaking the "daunting" task of applying the new standards, stating: Our responsibility, then, unless we badly misread the Supreme Court's opinion, is to resolve disputes among respected, well-credentialed scientists about matters squarely within their expertise, in areas where there is no scientific consensus as to what is and what is not 'good science', and occasionally to reject such expert testimony because it was not "derived by the scientific method"...
6 293 F. at 1014.
with particular attention to the new standards enunciated in *Daubert*, and how those standards have been applied to polygraph evidence. The article then examines the *Scheffer* decision and the legal effect of the scientific debate surrounding polygraph evidence. Finally, the impact on administrative law judges and the unanswered questions are examined, with some thoughts about what might happen in the future with respect to the admissibility of polygraph evidence.

II. General Acceptance under the *Frye* Test

The starting point for this discussion of the law related to scientific evidence is the decision in *Frye v. United States*. The opinion was rendered by the Court of Appeals for the District of Columbia reviewing the defendant Frye's conviction for second degree murder. The defense attempted to admit the testimony of a scientist who had conducted a systolic blood pressure deception test - the precursor to the polygraph - on the defendant, the results of which were exculpatory. The trial court, over the prosecution's objection, refused to allow the testimony, and the Court of Appeals affirmed. Its very short opinion, however, established what became known as the *Frye* rule or the "general acceptance" test. The court characterized the issue as one involving the propriety of expert testimony, which would be admissible if it arose from recognized scientific principles, then stated:

> Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized, and while the courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field

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8 See infra section III.
9 See infra section IV.
10 See infra sections V and VI.
11 See infra section VII.
12 293 F. 1013 (D.C. Cir. 1923).
to which it belongs.\textsuperscript{13}

One virtue of the \textit{Frye} test was said to be the assurance that "those most qualified to assess the general validity of a scientific method would have the determinative voice."\textsuperscript{14} The \textit{Frye} test was also thought to provide an effective and necessary barrier to the admission of spurious or venal expert testimony.\textsuperscript{15} Its most salient virtue, however, might have been that under the \textit{Frye} test, the judge (trained in law, not in science) was not asked to evaluate independently the validity or the reliability of scientific evidence. The judge did not need to be satisfied that a technique had been properly tested using appropriate scientific methodology. Rather, the judge (as gatekeeper) simply had to choose among potentially conflicting experts' opinions about whether or not the underlying scientific principles were generally accepted. The \textit{Frye} test could be characterized as scientifically conservative, in that new scientific theories or techniques might take some time to become established, first in the scientific community and then in the courts.\textsuperscript{16}

\textsuperscript{13} \textit{Id.} at 1014.


\begin{quote}
It is therefore best to adhere to a standard which in effect permits the experts who know the most about a procedure to experiment and to study it. In effect, they form a kind of technical jury, which must first pass on the scientific status of a procedure before the lay jury utilizes it in making its findings of fact.
\end{quote}


\textsuperscript{15} Peter W. Huber, \textit{GALILEO'S REVENGE: JUNK SCIENCE IN THE COURTROOM} 14-17 (1991).

\textsuperscript{16} The manner in which testimony about "radar gun" readings was eventually accepted in the courtroom provides an apt illustration. Before radar guns, evidence of a car's speed was provided by the observations of police officers, who were trained to estimate the speed of cars. Such "expert" testimony was considered sufficient for a conviction if believed by the jury. Lay witnesses were also considered competent to give opinions about the speed of vehicles. When the radar gun was developed, however, most prosecutors thought that this would be a more reliable way of proving the speed of a vehicle. The first trials about the admissibility of radar gun evidence, however, were very long, arduous inquiries into the nature of this new instrument. What does it do? How does it work? Physicists were needed to come into the courtroom to testify about the Doppler effect, which is the underlying scientific principle on which speed guns are based. A wave is sent out and bounces off an object and comes back to the source. Measurements can be taken about the characteristics and timing of this process. The physicists could testify about the how the Doppler effect works, and how a device could be made to record the measurements necessary to determine the speed of a moving object. When a judge was convinced that these underlying principles were accepted in the relevant scientific community, then evidence about the device's measurements was permitted.
The drawbacks to the general acceptance test were its rigidity—it could take quite a while before a novel theory (or more frequently, the novel application of a theory) could be used in the courtroom. The courts could not keep up with good, cutting-edge science because of the time it could take for other scientists to review and test the new theories, for articles to be published, and for a uniformity of opinion to be established. Furthermore, some forensic science did not enjoy the benefit of being the object of study or research by anyone other than forensic scientists.

Debate surrounding the continued validity of the Frye test highlighted by the adoption of the Federal Rules of Evidence in 1975. The federal rules, specifically Rule 702, state that:

If scientific, technical or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training or education, may testify thereto in the form of an opinion or otherwise.\(^{17}\)

Most courts attempted to read the "general acceptance" test as being consistent with this rule. Two cases from the Second\(^{18}\) and Third

As soon as enough physicists appeared in enough courts, and a few well reasoned opinions were written which accepted this sort of testimony, the challenges to the underlying science ended. Lawyers either would not (or could not) spend money to find experts who would contradict the underlying scientific principles.

This not to say, however, that radar gun evidence became invincible. The use of radar guns (and similar tests or techniques) spun off a second step, beyond the scientific theory that forms the foundation for the operation of a technique or device. The focus shifted away from the underlying theories and toward the administration of the tests. Defense lawyers began asking questions about the conditions under which these delicate devices needed to be operated, how often they needed to be calibrated, what routine maintenance was necessary to avoid malfunctions, and whether the operator of the device had been properly trained and qualified to operate it. Some courts required that these questions be answered satisfactorily before admitting the evidence; other courts simply permitted cross-examination along these lines, thus affecting the weight to be given the evidence by the fact finder. These are the kinds of questions that now most affect the admissibility (or weight given to) DNA testimony. See generally, Michael J. Saks & Jonathan J. Koehler, What DNA “Fingerprinting” Can Teach the Law About the Rest of Forensic Science, 13 CARDOZO L. REV. 361 (1991).

\(^{17}\) Fed.R.Evid. 702.

\(^{18}\) See United States v. Williams, 583 F.2d 1194 (2d Cir. 1978).
Circuits, however, held that there was nothing in the federal rules compelling adherence to Frye’s general acceptance standard. Rather, the rules required that the courts themselves ensure that the scientific testimony is relevant and “reliable.”

III. *Daubert v. Merrell Dow*: What is Scientific Knowledge?

The petitioners in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* were two minor children and their parents. Their suit against the respondent drug company alleged that the children’s serious birth defects were caused by the mothers’ having taken the drug Bendectin, a prescription medication for morning sickness. One well-credentialed expert for Merrell-Dow submitted an affidavit in support of a motion for summary judgment. The expert had reviewed the extensive published scientific literature, which concluded that maternal use of Bendectin had not been shown to be a risk factor for human birth defects. The literature was based on the generally accepted methodology in which epidemiological (human statistical) evidence is examined. The petitioners responded by presenting the testimony of eight other experts, also very well-credentialed, who found a causal link between the drug and the birth defects based on animal-cell studies, live-animal studies, chemical structure analyses, and reanalyses or recalculations of data in previously published epidemiological studies (which had found no such link). These reanalyses were found by the trial court to be inadmissible because they had not been published or subjected to peer review, as is most scientific literature. In affirming the trial court’s granting of the motion for summary judgment, the Court of Appeals for the Ninth Circuit emphasized that the reanalysis method was generally accepted by the scientific community, but only when “subjected to verification and scrutiny by others in the field.” In this case, the reanalyses were unpublished, not subjected to the

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19 See United States v. Downing, 753 F.2d 1224 (3d Cir. 1985).
21 In simple terms, a large group of similarly situated women would be studied to determine whether the children of mothers who took the drug had a higher incidence of birth defects than the children of mothers who did not take the drug.
23 *Id.* at 1131.
normal peer review process and generated solely for use in litigation.\textsuperscript{24}

The United States Supreme Court began its opinion by announcing, “In this case we are called upon to determine the standard for admitting expert scientific testimony in a federal trial.”\textsuperscript{25} While it is impossible to state the \textit{Daubert} standard in a sentence or two, the opinion is clear that the \textit{Frye} general acceptance test did not survive the enactment of the federal rules.\textsuperscript{26}

The Supreme Court in \textit{Daubert} stated that the trial judge is still empowered to screen scientific evidence, and must ensure that any and all scientific testimony admitted is relevant and reliable. The reliability standard is to be found principally in the provisions of Rule 702\textsuperscript{27} and its requirement that an expert’s testimony pertain to scientific knowledge, since the term “scientific” implies a grounding in certain methods and procedures. The Court interpreted the word “knowledge” in Rule 702 to mean a body of known facts or ideas inferred from such facts or accepted as true on solid grounds.\textsuperscript{28} Rule 702 also requires that the testimony “assist the trier of fact to understand the evidence or to determine a fact in issue,” and this language means that the testimony must have a valid scientific connection to the pertinent inquiry in order to be admissible.\textsuperscript{29}

When faced with novel scientific evidence, the Court provided some “general observations” (what amounts to a non-exclusive list of factors or inquiries) that lower courts might find helpful in determining whether admission is proper:

(1) Can the theory or technique in question be tested and if so, has it been tested? This, the Court found, was the methodological hallmark which distinguishes science from other forms of inquiry;

(2) Has the theory or technique been published and subjected to peer review? Publication is not absolutely essential to admissibility, but it increases the likelihood that methodological flaws will be detected;

\textsuperscript{24} \textit{Id}.
\textsuperscript{25} 509 U.S. at 582.
\textsuperscript{26} 509 U.S. at 589: “Frye made ‘general acceptance’ the exclusive test for admitting expert scientific testimony. That austere standard [is] absent from, and incompatible with, the Federal Rules of Evidence, [and] should not be applied in federal trials.” \textit{Id}.
\textsuperscript{27} \textit{See supra} note 17 and accompanying text.
\textsuperscript{28} 509 U.S. at 590.
\textsuperscript{29} 509 U.S. at 591.
(3) What is the known or potential rate of error if a trial court is faced with a particular scientific technique? Are there professional standards governing how the technique should be operated and by whom? The Court used spectrographic voice analysis as an example, without stating any particular error rate that might disqualify the technique from courtroom use;

(4) Has the theory or technique been generally accepted? By mentioning the general acceptance test, the Court seemed to leave room for courts to consider the Frye test as a part of their determination. However, the Court went on to state that “[a] reliability assessment does not require, although it does permit, explicit identification of a relevant scientific community and an express determination of a particular degree of acceptance within that community.”

The Court took pains to emphasize that the factors it mentioned were not to be thought of as a “definitive checklist or test,” but rather a way of conducting a flexible evaluation whose “overarching subject is the scientific validity and thus the evidentiary relevance and reliability of the principles that underlie a proposed submission.” Furthermore, the focus is to center on the validity of the principles and methodology underlying the expert’s conclusions, not on the conclusions they generate. Recognizing that the development of scientific knowledge is not a neat and easy process, and that the trial judge’s gatekeeping function will not always operate perfectly, the Court stated, “That, nevertheless is the balance that is struck by Rules of Evidence designed not for the exhaustive search for cosmic understanding but for the particularized resolution of legal disputes.”

Prior to the decision in Daubert, the federal circuits generally disallowed polygraph evidence as per se inadmissible. After all, the Frye case itself ruled that such tests (albeit in their primitive form in 1923) had not gained general acceptance in the scientific community. As long as there was considerable dispute about the scientific validity

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30 509 U.S. at 593-594.
31 Id. at 594.
32 Id. at 593.
33 Id. at 595.
34 See id.
35 Id. at 597.
of the polygraph, federal courts were not likely to reverse this trend.\textsuperscript{36} With the demise of the \textit{Frye} test, however, some courts, at least, recognized the need to take a second look.

\textbf{IV. Polygraph Evidence under the \textit{Daubert} Standards}

The polygraph is a machine that records and graphs three or four physical responses. These are galvanic skin response (sweating of the palms), the mean of the systolic and diastolic blood pressures, respiration rate, and sometimes changes in the blood flow in the tip of the index finger. These responses are measured by instruments placed on the subject being tested, and are made visible by simultaneous and continuous recording on a chart.\textsuperscript{37} The machine which connects the subject and the chart does not detect deception. Rather, the examiner studies the readings which are interpreted as giving indications of deception. The underlying theory of polygraphy is that conscious effort at deception by a rational individual causes involuntary and uncontrollable physiological responses that include measurable reactions in the bodily functions being monitored.\textsuperscript{38}

Everyone agrees that the examiner, and not the machine, is the most important factor in reaching "reliable" results.\textsuperscript{39} It is up to the examiner to determine the suitability of the subject for testing, to formulate the proper test questions, to establish the necessary rapport with the subject, to detect attempts to mask or create reactions on the chart, and to interpret the charts.\textsuperscript{40}

A polygraph test has been described as the measuring of

\textsuperscript{36} Despite the general exclusion of polygraph evidence in the federal courts, there were some cases in which the introduction of such evidence was permitted to prove facts other than truthfulness, see United States v. Kampiles, 609 F.2d 1233 (2d Cir. 1979), or when the parties stipulated in advance to the admissibility of the results, see United States v. Piccinonna, 885 F.2d 1529 (11th Cir. 1989).


\textsuperscript{38} Amicus Brief of The Committee of Concerned Social Scientists at 5-6, United States v. Scheffer, 118 S.Ct. 1261 (1998)(No. 96-1133). Critics of polygraph results point out that even if conscious deception does cause such autonomic physiological responses, so do other emotions such as fear and anxiety, anger or embarrassment. See Robert Steinbrook, \textit{The Polygraph Test – A Flawed Diagnostic Method}, 327 NEW ENG. J. MED. 122 (1992).

\textsuperscript{39} See Gianelli, \textit{supra} note 37, at 264.

\textsuperscript{40} \textit{Id.}
physiological responses from an individual while that individual answers a series of from 8-12 questions, which are reviewed with the subject of the test prior to beginning the test. There is a common misconception that the polygraph examiner simply hurls questions at the subject and can tell from the responses whether the subject is lying. Actually the process is a bit more subtle. Called the CQT (comparison or control question technique), the examiner assesses a person's credibility by looking for a differential reaction between two types of questions – those directly relevant to the inquiry: e.g., “Did you stab Jane Doe?”; and those that are more ambiguous and likely to produce some stress: e.g., “Did you ever shoplift when you were a teenager?” These questions are sometimes called “probable lie” questions. The examiner will also ask irrelevant questions: e.g., “Where do you live?”

The theory of the CQT is that subjects who are lying will produce larger physiological responses to relevant questions about which they are consciously deceptive, than to the less important comparison questions. The comparison questions, however, provide a base line consisting not of truthful answers, but of less important questions designed to elicit deception or at least some anxiety or uncertainty. Innocent subjects are expected to produce larger responses to the comparison questions, to which they may either be deceptive or at least uncertain of the truth of their answer. Innocent subjects are similarly expected to produce smaller responses to the truthfully answered directly relevant questions.

Even before Daubert, courts were beginning to recognize that a per se exclusion of polygraph results was troublesome. In United States v. Piccinonna, the defendant testified before a grand jury that

41 See Amicus Brief of Concerned Social Scientists, supra note 38, at 11.
42 See id. at 6.
43 There are other variations on the CQT test. Some involve questions in which subjects are instructed to lie (direct lie questions). Some examiners like to combine probable lie and direct lie questions. In United States v. Gilliard, 133 F.2d 809 (11th Cir. 1998), for example, the Eleventh Circuit held that there was insufficient testing and published studies to validate the results of a polygraph examination taken by the defendant, which incorporated a "hybrid control question" technique that used both "probable lie" and "directed lie" control questions. The trial court did not abuse its discretion under the Daubert standard of admissibility for scientific evidence because the hybrid technique was not shown to be reliable. It further held that the defendant failed to show that the hybrid technique had gained general acceptance within the relevant scientific community. See Gilliard, id.
44 885 F.2d 1529 (11th Cir. 1989).
he had no personal knowledge of any antitrust violations in the waste disposal industry. The grand jury nonetheless indicted him for perjury, and Piccinonna tried to get the government to stipulate to the admission of a polygraph test he wanted to take. The government would not so stipulate, but Piccinonna took the test anyway, and asserted that the results demonstrated that he had not lied to the grand jury. The trial judge refused to admit the results on the basis of the controlling *per se* rule against polygraph evidence in the Eleventh Circuit.\(^45\) On appeal, the Eleventh Circuit stated that "[b]ecause of the advances that have been achieved in the field which have led to the greater use of polygraph examination, coupled with a lack of evidence that juries are unduly swayed by polygraph evidence . . . a *per se* rule disallowing polygraph evidence is no longer warranted."\(^46\) The court held that admissibility would depend on balancing "the need to admit all relevant and reliable evidence against the danger that the admission of the evidence for a given purpose will be unfairly prejudicial."\(^47\) The Court of Appeals went on to set forth the circumstances and qualifications under which polygraph evidence might be considered, including stipulation by the parties, and use for impeachment or corroboration of a witness' testimony at trial.\(^48\)

In the post-*Daubert* period, several federal circuits have recognized that polygraph evidence has advanced in reliability, or at least is subject to renewed scrutiny in the wake of *Frye*’s demise. Stipulated results are admissible in many states.\(^49\) The majority of state

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\(^45\) See *id.* at 1530.

\(^46\) *Id.* at 1535.

\(^47\) *Id.*

\(^48\) See *id.* at 1536. If a party offers the polygraph to impeach or corroborate a witness' testimony at trial, three conditions must be met: first, the offering party must provide adequate notice to the opposing party; second, the opposing party must have a reasonable opportunity to have its own polygraph expert administer a test covering substantially the same questions; and third, whether or not impeachment or corroborating testimony is admissible continues to be governed by the Federal Rules of Evidence. For example, under Rule 608, a party cannot admit evidence that a witness passed a polygraph examination to bolster that witness's in-court testimony until the credibility of that witness is attacked. Even if all three conditions are met, however, the trial court may still exclude such evidence on the basis of Rule 401 (general relevance) or Rule 403 (balancing probative value against the dangers of confusion or unfair prejudice). *Id.*

and federal courts, however, continue to exclude polygraphs regardless of whether *Daubert* or *Frye* is applied to the admissibility question.\(^5\)

The first federal circuit to reconsider the admissibility of polygraph evidence in light of *Daubert* was the Fifth Circuit in *United States v. Posado*.\(^5\) In that case, the trial court had refused even to consider the admission of polygraph results offered by the defendants to prove they were truthful when they denied giving consent to a police search of their luggage. The Court of Appeals held that a *per se* rule of exclusion was not compatible with the standards set forth in *Daubert* and instructed the trial court to conduct the sort of reliability assessment established by *Daubert*.\(^2\) The Fifth Circuit noted, however, that Federal Rule of Evidence 403\(^3\) would play an "enhanced role" in the


51 57 F. 3d 428 (5th Cir. 1995).

52 *Id.* at 432-34.

53 *Id.* at 435 Fed. R. Evid. 403 provides:

Although relevant, evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury, or by considerations of undue delay,
admission of any scientific evidence, including polygraph results. In other words, even if polygraph evidence was determined to be reliable and relevant according the standards set out in Daubert, trial courts might still exclude it on other grounds.\(^5\)

In 1995, a federal district court in Arizona also held that a \textit{per se} rule excluding polygraph testimony was in need of reexamination. In the case of \textit{United States v. Crumby},\(^5\) the defendant was charged with bank robbery and aiding and abetting. He wanted to introduce evidence, from a qualified expert, that he took and passed a polygraph examination. The district court rejected a \textit{per se} ban on polygraph evidence and permitted the defendant to lay a foundation to meet the criteria set out in Daubert. The court heard testimony and found polygraph evidence to be sufficiently reliable and relevant to satisfy Daubert requirements.\(^5\) However, prior to admitting such evidence, a court must exercise extreme caution and must consider other rules of evidence, the purposes for which the polygraph evidence is sought to be admitted, and its prejudicial effect.\(^5\) For example, testimony that the defendant took and passed a polygraph examination on a topic would be admissible (although specific questions and answers would not be) to support credibility if the defendant were to first testify and the government were then to impeach his testimony by contradiction or otherwise.\(^5\) Furthermore, the defendant must provide sufficient notice

\(^5\) For a discussion of other rules of evidence which might exclude polygraph evidence irrespective of its scientific validity, see Edward J. Imwinkelried & James R. McCall, \textit{Issues Once Moot: The Other Evidentiary Objections to the Admission of Exculpatory Polygraph Examinations}, 32 \textit{Wake Forest L. Rev.} 1045 (Winter 1997). The other rules considered in this article are those arising when the subject does not testify at trial; in such instances, logical relevance (Rule 402), hearsay (Rule 801 \textit{et seq.}, and Rule 608 come into play. \textit{See id.}


\(^5\) \textit{See id.} at 1361.

\(^5\) \textit{See id.} at 1361-63. The court in Crumby examined (and answered head-on) the more viscerally based arguments justifying the exclusion of polygraph evidence: fear of technology, fear that such evidence will consume too much time, fear that jurors will think of polygraph results as infallible, and will confuse the polygrapher’s testimony about truthfulness with the defendant’s guilt or innocence of the crime charged. \textit{Id.}

\(^5\) The implication here is that if the defendant does not testify, then the polygraph evidence is not relevant. This conclusion is based on the assumption that polygraph evidence is useful as an additional source of information about the credibility of a witness who testifies at trial. For an argument that polygraph results can constitute independently relevant evidence
to the government; and the government must be given reasonable opportunity to have its own competent examiner administer a similar polygraph examination. Finally, the evidence should be admissible only to impeach or corroborate the defendant's testimony.59

In fact, there are many cases in which courts either assume as a given that polygraphy meets the Daubert requirements,60 or sidestep the issue of scientific reliability by resting their decision (to exclude the evidence) on other grounds.61 The Eighth Circuit stated in 1975, for example, that polygraph evidence is "likely to be shrouded with an aura of near infallibility, akin to the ancient oracle of Delphi."62 And in United States v. Sherlin,63 the Sixth Circuit held that the trial court did not abuse its discretion when it excluded the results of a privately commissioned polygraph test offered by the defendant. The defendant in Sherlin, who was being prosecuted for arson and perjury, offered the test results to prove that he did not lie to a grand jury when he denied burning a building. The court ruled that such evidence was of slight probative value and was unfairly prejudicial because the opposing party was unaware of the test until after its completion.64

Many earlier cases had excluded polygraph evidence on grounds such as these. A 1981 Illinois case, for example, declared that polygraph evidence at trial is "an unwarranted intrusion into the jury

of an accused's "consciousness of innocence" that has probative value in connection with the guilt/innocence determination, see, Issues Once Moot, supra, note 54 at 1061. 59 See United States v. Crumby, supra note 55 at 1365.

60 See, e.g., United States v. Redschlag, 971 F.Supp 1371, 1374 (D.Colo.1997)("This court will accept the proposition that in a given case a sufficient foundation can be laid under Daubert for admission of polygraph examination results"). Id. But see, United States v. Scarborough, 43 F.3d 1021, 1026 (6th Cir. 1994)(polygraph evidence is unreliable); United States v. Sanchez, 118 F.3d 192 , 197 (4th Cir. 1997)(reaffirming a per se ban on polygraph evidence).

61 See, e.g., United States v. Gilliard, 133 F.2d 809 (11th Cir. 1998), where the Eleventh Circuit stated that even if the results of the defendant's polygraph examination were admissible under the rule governing scientific evidence, the results were properly excluded on the grounds that the probative value of the evidence was substantially outweighed by the potential for unfair prejudice, confusion of issues, and misleading the jury, in view of the time it would take to present such evidence, the fact that the polygraph test addressed only some counts of the indictment, and the absence of a government representative at the time of testing. See id. at 815-816.


63 67 F.3d 1208, 1217 (6th Cir. 1995).

64 See id.
Similarly, a Louisiana court stated that polygraph evidence "usurps the jury's prerogative." These kinds of policy-oriented arguments against the admissibility of polygraph evidence are quite distinct from the actual reliability assessment required by Daubert. These arguments would seem to apply even if polygraphy were shown to be extremely reliable, and some courts have simply concluded that polygraph evidence may be excluded irrespective of its scientific validity. Were it not for the Sixth Amendment, many courts would probably exclude polygraph testimony on such "we just don't like it" grounds.

The Sixth Amendment right of a criminal defendant to present a defense, it should be remembered, is one of the forces driving the admissibility of polygraph testimony. In the leading case of Rock v. Alabama, the Supreme Court had to deal with a trial court's denial of a defendant's right to present hypnotically refreshed testimony. The Court stated that a state has a legitimate interest in barring unreliable evidence, but that interest "does not extend to per se exclusions of exculpatory evidence that may be reliable in a particular case." Although constitutional rights (such as those which might be enjoyed by criminal defendants) may not be applicable in administrative hearings, the arguments in such cases could be equally persuasive, particularly because a jury is not involved, and an administrative law judge will be assumed to be able to give polygraph testimony its proper weight.

The cases decided since Daubert appear to reflect the following developments: it is likely that reasonable foundations can be laid for the

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67 See, e.g., United States v. Cordoba, 104 F.3d 225, 228 (9th Cir.1996) (recognizing that trial judge should evaluate admission under Rule 403); United States v. Kwong, 69 F.3d 663, 668-69 (2d Cir.1995) (evidence excluded under Rule 403 because test questions were inherently ambiguous); United States v. Sherlin, 67 F.3d 1208, 1216-17 (6th Cir.1995) (evidence excluded under Rule 403 where opposing party unaware of test until after its completion); United States v. Pulido, 69 F.3d 192, 205 (7th Cir.1995) (evidence excluded because polygraph results were peripheral to the "core issues" of the case and proponent was otherwise able to successfully impeach witness); Conti v. Commissioner, 39 F.3d 658, 662 (6th Cir.1994) (evidence excluded under Rule 403 because evidence was "unilaterally obtained").
69 Id. at 61.
scientific reliability of polygraph evidence, when properly administered by qualified individuals. Although 100% accuracy cannot be achieved, there is a growing quantity of experimental validation which militates toward admission. According to some scholars in this area, "there is an incipient but clear trend toward the admission of polygraph evidence."\textsuperscript{70} When respectable experts can state that "much of the published research tends to validate the hypothesis that a trained, experienced polygraphist can accurately diagnose untruthfulness in over ninety percent of the cases,"\textsuperscript{71} then the direction of the law does appear inexorable.

It must be emphasized, however, that scientific validity or reliability is not the only constraint on the admissibility of such evidence. Courts continue to rely on other rules of evidence, particularly Rule 403, to exclude polygraph results, regardless of their conclusions about scientific validity.\textsuperscript{72}

The trend-watchers might have been startled, however, when the United States Supreme Court decided the case of \textit{United States v. Scheffer}\textsuperscript{73} in March of 1998. The import of \textit{Scheffer} was that it upheld the Court of Military Justice's \textit{per se} rule against the admission of polygraph evidence in court martial proceedings in the face of a defendant's constitutional challenge that such an exclusion violated the right of an accused to present a defense under the Fifth and Sixth Amendments. The holding of \textit{Scheffer}, however, although it does slow down the "incipient but clear trend," is quite limited. Its most likely effect will be to toss the issue into the legislative arena.

\textsuperscript{70} Edward J. Imwinkelried & James R. McCall, \textit{Issues Once Moot: The Other Evidentiary Objections to the Admission of Exculpatory Polygraph Examinations}, supra note 54 at 1045, 1049 (1997).

\textsuperscript{71} \textit{Id.} at 1049.

\textsuperscript{72} The Tenth Circuit held that the \textit{Daubert} framework must be applied to polygraph examinations, but that for it to be admitted, polygraph evidence must also satisfy Rule 403. In its most recent case, the court of appeals held that evidence of a polygraph examination was properly excluded as more prejudicial than probative, as the defendant sought to introduce the evidence to bolster his credibility, which is generally not an appropriate subject for expert testimony. In addition, the danger existed that the jury would overvalue the polygraph results. \textit{U.S. v. Call}, 129 F.3d 1402, 1406 (10th Cir. 1998), \textit{cert. denied}, 118 S.Ct. 2064, 141 L.Ed.2d 141 (1998).

\textsuperscript{73} 118 S.Ct. 1261 (1998).
V. United States v. Scheffer: The Science May be Okay, But We Still Don’t Like It

Airman Scheffer was court-martialed for uttering bad checks, wrongfully using methamphetamine, failing to go to his appointed place of duty and absenting himself from his unit. He had tested positive for the presence of methamphetamine in a urinalysis, but passed a lie detector test which indicated “no deception” when he denied using drugs since joining the Air Force. He testified at trial on his own behalf, relying on an “innocent ingestion” theory and denying that he had knowingly used drugs. The prosecution cross-examined him on the inconsistencies between his trial testimony and some earlier statements he had made, which Scheffer attempted to rebut by introducing the results of his favorable polygraph examination.\(^7\)

Although the Military Rules of Evidence largely track the Federal Rules, and Rule 702 of the Military Rules is identical to Rule 702 of the Federal Rules,\(^5\) the Military Rules include an additional rule (Mil.R. Evid. 707) promulgated in 1991, to wit:

(a) Notwithstanding any other provision of law, the results of a polygraph examination, the opinion of a polygraph examiner, or any reference to an offer to take, failure to take, or taking of a polygraph examination, shall not be admitted into evidence.\(^6\)

This \textit{per se} ban on polygraph evidence has no other federal counterpart. The military judge determined that Rule 707 required the exclusion of the evidence sought to be introduced by Scheffer, who was convicted. The Military Court of Appeals reversed the conviction, holding that a \textit{per se} exclusion offered by an accused to rebut an attack on his credibility, without giving him an opportunity to lay a foundation under Mil.R.Evid.702 and \textit{Daubert}, violates his Sixth amendment right to present a defense.\(^7\)

The United States Supreme Court overturned the reversal and upheld the right of the Military to enact a categorical exclusion of

\textit{See id.} at 1263-1264.
\textit{Rule 702} governs the admissibility of expert witness/scientific testimony and is set forth \textit{supra}, at 175.
Mil.R. Evid. 707.
polygraph evidence such as that contained in Rule 707.\textsuperscript{78} \textit{Rock v. Arkansas}\textsuperscript{79} stated that a criminal defendant's right to present evidence is subject to reasonable restrictions designed to serve other legitimate interests in the trial process, as long as the restrictions are not arbitrary or disproportionate. Additionally, exclusions of evidence are only arbitrary or disproportionate if they infringe on a sufficiently weighty interest of the accused.\textsuperscript{80} The Supreme Court in \textit{Scheffer} reviewed the interests which Rule 707 was said to serve. These interests "include ensuring that only reliable evidence is introduced at trial, preserving the jury's role in determining credibility, and avoiding litigation that is collateral to the primary purpose of the trial."\textsuperscript{81}

In upholding Rule 707, three other justices joined in Justice Thomas's conclusion that "there is simply no consensus that polygraph evidence is reliable."\textsuperscript{82} That lack of scientific consensus, however, was said to be reflected both in the scientific literature\textsuperscript{83} and by the disagreement among state and federal courts about the admissibility of such evidence.\textsuperscript{84} Nonetheless, although the parties in the case had never had the opportunity to lay a foundation for scientific reliability, Justice Thomas's opinion concludes that the \textit{per se} ban on polygraph evidence in all military trials "is a rational and proportional means of advancing the legitimate interest in barring unreliable evidence."\textsuperscript{85} He went on to say, however, that "[I]ndividual jurisdictions therefore may reasonably reach differing conclusions as to whether polygraph evidence should be

\textsuperscript{80} \textit{Id.}
\textsuperscript{81} 118 S.Ct. 1264.
\textsuperscript{82} \textit{Id.} at 1265.
\textsuperscript{83} Justice Thomas characterized the opinions of the scientific community as being "extremely polarized." \textit{Id.}
\textsuperscript{84} \textit{See id.} This is a most curious application of the \textit{Daubert} standards, which ask the courts to be gatekeepers for the reliability of the science being presented. What Justice Thomas does, however, is rely on the lack of scientific agreement about the reliability of the technique (\textit{a la Frye}) and bolster this conclusion by describing the lack of \textit{judicial} agreement on the admissibility of polygraph evidence (for a myriad of reasons, including, but not limited to, scientific validity). He seems to assume that judicial uncertainty is synonymous with scientific invalidity, either one of which provides equal support for exclusion. What he clearly does not do in his opinion, is undertake to determine which group of scientists has done the better job of supporting their conclusions by using scientific method.
\textsuperscript{85} \textit{Id.} at 1266.
admitted.” In the light of so much uncertainty, Rule 707’s ban is not arbitrary or disproportionate.

Justice Thomas’s opinion proceeds to justify Rule 707 by showing how it serves the other two legitimate interests which support it: preserving the role of the jury and keeping trials free from time-consuming, extraneous matters. The opinion also concludes, as a fourth justification for the ban, that Rule 707 does not implicate any significant interest of the accused. It does not prevent the accused from testifying in his own behalf, or from presenting facts which constitute a defense. Rather, the ban only prevents the presentation of expert opinion testimony relating to credibility, so that the “respondent’s defense was not significantly impaired by the exclusion of polygraph evidence.”

Justices Rehnquist, Souter and Scalia joined with Justice Thomas with respect to all of the parts of the opinion. However, four other Justices (Kennedy, O’Connor, Ginsburg and Breyer) concurred only with the result and with the first and fourth ground supporting the decision. Their view was that it would have been sufficient to decide this case by noting the continuing, good-faith disagreement among experts and courts on the subject of polygraph reliability, therefore, differing conclusions on admissibility are appropriate. Given the ongoing debate, a rule of per se exclusion is “not so arbitrary or disproportionate that it is unconstitutional.” Although the concurrence did not provide any separate analysis, it also agreed that Airman Scheffer’s need for the evidence in this case was not particularly compelling. But the concurring justices did acknowledge the possibility that another case might be more so.

The concurrence was motivated primarily by the opinion that protection of the traditional jury function was not a salient ground on which to rest a decision about polygraph evidence. Citing Rule 704 (nearly identical under the Federal Rules of Evidence and the Military

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86 Id.
87 See id. at 1266-1267.
88 Id. at 1269.
89 Id.
90 See id.
Rules of Evidence \(^91\), the concurrence berates the principal opinion for stating that jurors should not hear conclusions about the “ultimate issue” in the trial, calling this a “tired argument” put to rest by that rule and one which “demeans and mistakes the role and competence of jurors in deciding the factual question of guilt or innocence.”\(^92\) Finally, while the concurrence did not state its reasons, it also refused to join in that part of the principal opinion that supported a \textit{per se} ban based on its potential to burden the courts with collateral litigation.

Justice Stevens, in dissent, emphasized the right of a criminal defendant to present exculpatory evidence. He agreed that usurpation of the jury function and the threat of collateral litigation could not justify a \textit{per se} exclusion of polygraph evidence.\(^93\) He took the further position that a \textit{per se} exclusion could not stand, and that a defendant was entitled to “attempt to lay” the foundation for favorable polygraph testimony in order to protect his constitutional right to present a meaningful defense.\(^94\)

VI. \textit{Scheffer: Don’t Look for the Answer Here}

At first blush, \textit{Scheffer} might aptly be characterized as anti-polygraph. But it is really a very narrow decision, which holds only that a \textit{per se} exclusion or a statutory ban on the admissibility of polygraph evidence does not violate a defendant’s right to present a defense, at least under the facts presented in Airman Scheffer’s case.\(^95\) What needs to be remembered, however, is that there is no such absolute ban in the

\(^{91}\) Rule 704(a) states: [T]estimony in the form of an opinion or inference otherwise admissible is not objectionable because it embraces an ultimate issue to be decided by the trier of fact.” Fed. R. Evid 704(a).

\(^{92}\) 118 S.Ct. at 1269.

\(^{93}\) \textit{Id.} at 1278-79 (Stevens, J. dissenting).

\(^{94}\) \textit{Id.} at 1271. Justice Stevens found Airman Scheffer’s need for the polygraph evidence much more compelling than the other justices, and posed the constitutional question as “whether the three interests on which the government relies are powerful enough to support a categorical rule excluding the results of all polygraph tests no matter how unfair such a rule may be in a particular case.” \textit{Id.} at 1276.

\(^{95}\) In an unduly hopeful footnote, Judge Ebel of the Tenth Circuit Court of Appeals stated, “Of course, the issues surrounding the admissibility of polygraph evidence will become clearer once the Supreme Court issues an opinion in United States v. Scheffer . . . .” United States v. Call, 129 F.3d 1402, 1408 (Ebel, J., dissenting from an opinion in which the defendant was denied a \textit{Daubert} hearing to establish the reliability of his polygraph results).
federal courts, and in many states where polygraph evidence is generally inadmissible, the results may be nonetheless admitted if the test is taken according to specific procedures and/or is stipulated to by both sides.\textsuperscript{96} \textit{Scheffer} does \textit{not} hold that polygraph evidence is unreliable. It does not hold that courts \textit{must} exclude it. In fact, five of the justices seemed to indicate that a \textit{per se} exclusion was probably inconsistent with \textit{Daubert}.\textsuperscript{97}

The decision in \textit{Scheffer} leaves the door wide open for courts to consider the underlying scientific bases for the polygraph, to reconsider their holdings pursuant to the standards set forth in \textit{Daubert}, and generally to keep open the debate about the admissibility of polygraph evidence. This is about as much as can be expected in light of the divergent scientific views and the less identifiable but equally divergent views of the bench and bar. What would have been truly startling would have been a decision reflecting the respondent’s position, \textit{i.e.}, not only should Airman Scheffer have had the Sixth Amendment right to \textit{attempt} to lay a foundation for the admission of his polygraph results, but that the foundation he would have laid most likely would have compelled admission. If the Supreme Court had so held, their decision would have been binding on state courts, as well as federal and military courts, and would have compelled, as a constitutional guarantee, all courts to permit exculpatory polygraph evidence when offered by criminal defendants. Thus, the question of whether an accused has a constitutional right to present exculpatory polygraph evidence is quite different from the question of whether all courts should admit or exclude such evidence based on their assessments of the reliability, relevance, and other concerns. While polygraph proponents are pleased with a ruling permitting the admission of polygraph evidence, the opponents are pleased with a ruling that permits its exclusion. The holding in \textit{Scheffer} forces neither result in that majority of courts whose positions are derived from case law rather than rule or statute.

\textsuperscript{96} Amicus Brief of the United States Army Defense Appellate Division, at 6-22, United States v. Scheffer, 118 S.Ct. 1261 (No.96-1133)(1998).

\textsuperscript{97} \textit{See Scheffer}, 118 S.Ct. 1261. The concurrence noted that giving trial courts considerable discretion to admit or reject scientific testimony under \textit{Daubert} was not constitutionally compelled. But to the extent that \textit{Daubert} governs the manner in which issues of admissibility are to be resolved, there is “some tension between that rule and our holding today.” \textit{Id.} at 1269.
Most lawyers simply assume that polygraph evidence is not admissible and therefore do not routinely think about whether or not it might be helpful in their cases. The holding in Scheffer draws attention to the issue (and, incidentally, provides a voluminous collection of sources and cites for litigants seeking to liberalize exclusionary policies in their jurisdictions). Additionally, some of the opinions taking a more permissive posture toward polygraph evidence provide some guidelines and procedural protections that may make liberalization more palatable to skeptics.

VII. Implications for Administrative Law Hearings

Many administrative law hearings, such as professional license revocations or cases involving sexual harassment or other instances of employment discrimination, take on some of the characteristics of formal adversary adjudications, whether civil or criminal. Facts may be hotly contested, and the administrative law judge must determine the credibility of the witnesses in order to make findings of fact. In this arena, some parties might very well seek to introduce the results of polygraph evidence favorable to their position. "He said, she said" employment sexual harassment cases or other employee misconduct cases are good examples. Either side might wish to use polygraph evidence, and administrative law judges can expect requests of this nature to increase. As more courts perform Daubert-style analyses examining the scientific bases for polygraph evidence, more courts may come to the conclusion that polygraph evidence can meet the standards for the admission of expert testimony under Rule 702. Despite the evolving science, however, courts uncomfortable with polygraph evidence, and administrative law judges can expect requests of this nature to increase. As more courts perform Daubert-style analyses examining the scientific bases for polygraph evidence, more courts may come to the conclusion that polygraph evidence can meet the standards for the admission of expert testimony under Rule 702.99 Despite the evolving science, however, courts uncomfortable with polygraph


99 At the same time, it is interesting to note, serious Daubert-style inquiries can lead to the rejection of expert testimony that previously enjoyed a long history of admissibility. See, e.g., Williamson v. Reynolds, 904 F Supp 1529 (E.D.Okla.1995), where the court concluded that testimony based on hair analysis "matching" the hair of the defendant to hairs found at a crime scene was unscientific: the only consensus about hair analysis was among hair experts, "who are generally technicians testifying for the prosecution, not scientists who can objectively evaluate such evidence." Id. at 1558.
evidence seem to feel free to exclude it on Rule 403 grounds, i.e., the "probative value" of polygraph evidence may be "outweighed by the danger of unfair prejudice, confusion of the issues or misleading the jury." In fact, more and more courts, even after finding that polygraph evidence does meet Daubert standards, are upholding its exclusion on these grounds.\footnote{See, e.g., U.S. v. Gilliard, 133 F.3d 809 (11th Cir.1998).}

Several factors should serve to discourage this practice, which can aptly be characterized as the "easy way out" for judges uncomfortable performing the gatekeeping function demanded by Daubert, and similarly uncomfortable with the prospect of having to hear either polygraph evidence, or disputed claims about its reliability. First, it should be remembered that five of the Scheffer justices rejected the notion that the impairment of jury decision-making was either persuasive or pertinent to its decision. In other words, a majority of the court felt that most jurors could handle this evidence, and a "fear that the average jury is not able to assess the weight of this testimony reflects a distressing lack of confidence in the intelligence of the average American."\footnote{United States v. Scheffer, 118 S.Ct. 1261, 1278 (Stevens, J., dissenting). Justice Stevens even cited research concluding that jurors do not blindly accept polygraph evidence but that they instead weigh it along with other evidence. \textit{Id.} at note 26.} The four concurring justices were clearly of the opinion that usurpation of the jury function was not a legitimate ground upon which to exclude polygraph evidence.\footnote{\textit{Id.} at 1269 (Kennedy, J., concurring in part and concurring in the judgment).} If jurors are considered capable of rationally weighing such evidence, it stands to reason that when the fact finder is not an "average American" juror, but is rather an administrative law judge, Rule 403 becomes largely irrelevant. It is not likely that in a judge-tried case, the judge will refuse to hear evidence because he or she admits to an inability to evaluate it properly.

Second, from a purely doctrinal point of view, Daubert is relatively clear about how it intended courts to deal with scientific conflicts. The opinion emphasizes that the adversary system provides an adequate check to balance the newly liberalized standard for the admission of scientific evidence. "Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky
but admissible evidence."\textsuperscript{103} The Supreme Court encouraged the use of these tools of the adversary system when the trial court had already determined that the testimony would meet the minimum reliability requirements for admissibility under Rule 702. Thus, the overall impression of \textit{Daubert} is for evidence to be admitted liberally, then made meaningful or put in perspective by the adversary system.\textsuperscript{104}

Finally, it should be remembered that polygraph evidence may be considered scientifically reliable enough for admissibility as a general proposition, and may be admitted over general objections about the usurpation of fact-finders functions, yet still be inadmissible in a particular case. There are sufficiently well recognized standards to separate properly administered polygraph tests from those which present good reason to question their scientific validity, such as when the examiner is not licensed or properly credentialed; the subject is mentally ill, or the test questions are shown to be too vague. In these cases, the gatekeeper is warranted in excluding the evidence based on concrete flaws in the methodology that affect the reliability of the evidence. \textit{Per se} exclusions based on upon the vaguer grounds of Rule 403, however, are not justified.

\section*{VIII. Conclusion}

Based on the foregoing, polygraph evidence is likely to become more common in the courtroom, and ultimately in administrative hearings as well, when credibility is a significant aspect of the case. ALJ's should recognize that such evidence is beginning to gain acceptance in some jurisdictions and is no longer universally excluded. Armed with sufficient information about the strengths and weaknesses of this kind of evidence, decision makers may find it a useful tool in some kinds of cases. A polygraph examination might reasonably (not

\textsuperscript{103} 113 S. Ct. at 2798.

\textsuperscript{104} While this conceptualization appears traditional and appealing, it has been thoroughly criticized as encouraging outcomes that lack legitimacy and which constitute a denial of “intellectual due process.” Scott Brewer, \textit{Scientific Expert Testimony and Intellectual Due Process}, 107 \textit{Yale L.J.} 1535, 1538-1539 (April 1998). Professor Brewer derides the arbitrary decisions that will be made by judges, jurors or agency administrators who are not sufficiently “epistemically competent” to render decisions about scientific expert testimony. He appears to favor a system in which the legal decision makers are scientifically trained and therefore competent in the relevant scientific disciplines. \textit{Id.} at 1681.
conclusively) convey a person’s consciousness of guilt or innocence with respect to a particular historical event, or carry some probative force with respect to a witness’s credibility.

However, regardless of how the debates about polygraph evidence are resolved, judges need to be aware of new responsibilities to evaluate scientific evidence under *Daubert v. Merrell Dow*. The task may not be welcomed by all, but remains the next step in the uneasy relationship between science and the law.

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105 See Edward J. Imwinkelried & James R. McCall, *Issues Once Moot: The Other Evidentiary Objections to the Admission of Exculpatory Polygraph Examinations*, supra note 54, at 1056-58 (1997). The authors of this article prefer to characterize the effect of polygraph evidence in this manner in order to obviate any requirement that an accused actually testify at trial in order for the evidence to be admissible as relevant to credibility. *Id.*

106 One learned commentator has found that judges are doing a very poor job under the *Daubert* standards, concluding that:

"The results of these gatekeeping exercises is a tortured landscape of post-*Daubert* decisions, which are non-uniform, inconsistent, and irreconcilable. When different courts are presented with the same scientific methodology, the depth of their scrutiny varies considerably and the gatekeeping factors are not applied uniformly. Not surprisingly, courts reach different and at times conflicting conclusions on admissibility."

Dr. Jay P. Kesan, *A Critical Examination of the Post-Daubert Scientific Evidence Landscape*, 52 *Food & Drug L.J.* 225, 251 (1997). Dr. Kesan’s solution is to empower panels of administrative law judges who have “specialized expertise and cumulative experience” in dealing with novel scientific evidence to rule on questions under Rule 702. *See Id.*, at 249-250.