American College of Trial Lawyers

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STANDARDS AND PROCEDURES FOR DETERMINING THE ADMISSIBILITY OF EXPERT EVIDENCE AFTER *DAUBERT*

In *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,[1] the United States Supreme Court ruled that the "general acceptance" standard for scientific expert evidence, originally set forth in *Frye v. United States,*[2] had not survived the adoption of the Federal Rules of Evidence. Instead, the Court held that trial judges must use a more "flexible" test, consistent with the "liberal thrust" of those Rules.[3]

The Supreme Court's decision in *Daubert* has already produced, and will no doubt continue to produce, an enormous amount of discussion and writing among federal judges, academics and trial lawyers about the implications of the decision. As in any such situation, there are dangers that those implications will be misunderstood and that the misunderstanding may lead to difficulties for both trial judges and trial lawyers. The American College of Trial Lawyers hopes that this report will contribute to ameliorating those dangers.

In summary, we conclude, first, that it is unlikely that those lower federal courts which previously applied the *Frye* test will reach materially different decisions on admissibility after *Daubert* than they would have before, but those which had departed from *Frye* in favor of a more relaxed standard based on the "helpfulness" of the evidence to the fact-finder may be required to reach more restrictive rulings on admissibility under the *Daubert* test. Second, we believe that the principles of the *Daubert* decision ought to be applied (and are being applied), at least generally, to admissibility analyses of non-scientific expert evidence as well as scientific expert evidence. Lastly, because *Daubert* clearly requires trial judges to subject expert evidence to more penetrating pretrial scrutiny, we set forth some suggestions as to how trial courts (with the assistance of trial lawyers) may discharge their increased responsibilities under *Daubert.*

I. The Standards for Admissibility of Scientific Expert Evidence Under *Daubert*

A. The Background to *Daubert*

Although the debate about the use of scientific expert evidence long predated *Frye*[4] that case is the starting point for understanding *Daubert.* Under *Frye,* scientific expert evidence was not admissible unless it had been generally accepted in the particular scientific community to which it belonged.[5] Although the *Frye* standard tended to preclude the admission of many novel scientific theories and methodologies, it had practical benefits. By using the "general acceptance" standard,

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[1] 113S. Ct 2786 (1993).

[2] 293F. 1013(D.C. Cir. 1923).

[3] *Daubert,* 113 S. Ct at 2794.

[4] *See* Learned Hand, *Historical and Practical Considerations Regarding Expert Testimony,* 15 HARV. L REV. 40, 42-43 (1901) (tracing the use of scientific testimony back to the 1300s).

[5] *Frye*, 293 F. at 1014.

courts deferred to the scientific community and avoided the difficulties inherent in evaluating information that was often extremely technical and highly confusing.

Additionally, the "general acceptance" standard provided some assurance that the evidence was reliable and thereby assisted trial judges in "weeding out" fringe scientific theories or methodologies that had only minimal support in the relevant scientific community. Importantly for our adversarial system of justice, the *Frye* standard tended to ensure that there would be sufficient pools of experts familiar with the relevant theories and methodologies to support or rebut the evidence at trial.

On the other hand, in the view of many, the *Frye* "general acceptance" test tended to retard the admission of potentially useful scientific information. The Third Circuit, for instance, viewed the *Frye* standard as a rigid exercise in "nose-counting" that frequently led to the exclusion of helpful scientific expert evidence.[6] To address this problem, the Third Circuit fashioned an approach that, drawing on the language of Rule 702 of the Federal Rules of Evidence, emphasized the "helpfulness" to the jury of the proffered evidence.[7]

The Fifth Circuit took a more restrictive approach, adopting a modified *Frye* standard for ruling on the admissibility of scientific expert testimony.[8] Although the court focused on the validity of an expert's methodology, rather than the conclusions reached, it applied the "general acceptance" test to that inquiry: "When analyzing the validity of an expert's methodology, we seek to determine whether it connects the facts to the conclusion in a scientifically valid way. We answer this question by applying the *Frye* test...."[9] Because "general acceptance" in the scientific community cannot exist without peer review, the Fifth Circuit in effect made publication and peer review a prerequisite to admissibility of scientific expert evidence.

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[6] *See DeLuca v. Merrell Dow Pharmaceuticals, Inc.,* 911 F.2d 941, 951 (3d Cir. 1990); *see also In re Paoli R.R. Yard* PCS *Litig.,* 916 F.2d 829 (3d Cir. 1990), cert, *denied sub nom. General Elec. Co. v. Knight,* 499 U.S. 961 (1991); *United States v. Downing,* 753 F.2d 1224 (3d Cir. 1985).

[7] See *DeLuca,* 911 F.2d at 955. Prior to *Daubert,* the Second, Third and Fourth Circuits and the Court of Military Appeals had rejected *Frye*, deeming it superseded by the "helpfulness" standard of Rule 702. See, *e.g., United States v. Jakobetz,* 955 F.2d 786 (2d Cir.), cert *denied,* 113 S. Ct. 104 (1992); *Downing,* 753 F.2d at 1237; *Clinchfield R.R. v. Lynch,* 784 F.2d 545, 553-54 (4th Cir. 1986); *United States v. Mustafa.* 22 M.J. 165 (C.M.A.), *cert, denied,* 479 U.S. 953 (1986). Of the 37 states that have adopted evidence codes patterned after the Federal Rules of Evidence, several had also followed this approach. *See*, *e.g., Barmeyer v. Montana Power Co., 657 P.2d 594, 597-98 (Mont. 1983).* In most states, it is an open question whether or not *Daubert* will be followed. *See, e.g.. State v. Bible,* 858 P.2d 1152 (Ariz. 1993).

[8] See *Christophersen v. Allied Signal Corp.,* 939 F.2d 1106,1110 (5th Cir. 1991), cert. *denied.* 112 S. Ct. 1280 (1992); *Brock v. Merrell Dow Pharmaceuticals, Inc.,* 874 F.2d 307, 313 (5th Cir.), *reh'g denied,* 884 F.2d 167 (1989), cert. *denied,* 494 U.S. 1046 (1990).

[9] *Christophersen,* 939 F.2d at 1115.

B. The *Daubert* Decision

The Supreme Court in *Daubert,* in a majority opinion by Justice Blackmun, resolved those differences among the Circuits. As a prerequisite to that result, however, the Court first held unanimously that the Federal Rules of Evidence — specifically Rule 702 — had superseded *Frye's* "general acceptance" test. After reviewing Rule 702, the Court noted that "[n]othing in the text of this Rule establishes 'general acceptance' as an absolute prerequisite to admissibilrty."[10]

Rule 702 provides 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," an expert "may testify thereto."[11] The Court in *Daubert* interpreted this rule to impose two distinct requirements in the case of scientific expert evidence: (i) the evidence must be *reliable,* that is, the underlying methodology from which the evidence is derived *(not* the conclusion drawn) must be based on "scientific knowledge;" and (ii) the evidence must be *relevant,* that is, it must assist the trier of fact either in understanding other evidence or in determining a fact in issue.

1. Reliability of the Evidence

The key point of the decision, and the one which has sparked the most discussion, is the first prong of the test of admissibility: the determination of whether the evidence is based upon a methodology that is "scientific"[12] and, therefore, reliable. This judgment must be made, before the evidence is admitted, by the judge acting as a "gatekeeper" under Federal Rule of Evidence 104(a) and "entails a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid ...."[13] In other words, the trial court must determine whether the opinion has "a reliable basis in the knowledge and experience of... [the expert's] discipline."[14]

Chief Justice Rehnquist, in his separate opinion, rightly questioned the helpfulness of this general formulation to "hundreds of district judges" trying to apply *Daubert.*[15] Although Justice Blackmun declined to provide a definitive test for the trial judge to use in making this determination, he did provide a *non-exclusive* list of four factors (none of which is alone determinative) that would be useful in determining the soundness of the methodology from which the proffered conclusions are derived: (i) whether the theory or technique can be and has been tested; (ii) whether the theory or technique has been subjected to peer review and

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[10] *Daubert,* 1 1 3 S. Ct. at 2794.

[11] FED. R. Evio. 702.

[12] Note that the Court's discussion in *Daubert* is confined to *scientific* expert evidence as opposed to "technical, or other specialized knowledge." *Daubert,* 113 S. Ct. at 2795 n.8 (quoting FED. R. EVID. 702). Whether the Court's reasoning applies to these other types of expert evidence is addressed in Part II of this report. See *infra* pp. 10-14.

[13] *Daubert,* 113 S. Ct. at 2796.

[14] *Id.*

[15] *Id.* at 2800.

publication; (iii) the known or potential rate of error or the existence of standards; and (iv) whether the theory or technique used has been generally accepted. [16]

Although the Court did not explicitly rank or weight these factors, it did indicate that the first factor — whether the theory or technique has been tested — is a "key question."[17] At least one court has read that phrase as an implied ruling that this factor is the most crucial.[18] Whether a theory or technique can be and has been tested, how rigorous or thorough that test was, and how well the theory or technique survived that test are among the most important questions the trial judge must answer in determining the reliability of scientific expert evidence.

The second factor — peer review and publication — is described by the Court as a means of determining whether the theory or technique has been submitted to "the scrutiny of the scientific community."[19] The Court noted that such scrutiny "increases the likelihood that substantive flaws in methodology will be detected."[20]

The third factor — the rate of error and the existence and maintenance of standards — is closely related to the issue of testing. Proper testing of a theory or technique would necessarily include an analysis of the error rate and the standards employed during both the original study and any tests subsequently conducted by either the original proponent or peers. Tests or peer reviews of scientific theories without known error rates or standards would be of limited utility in determining the reliability or validity of the evidence at issue.

Finally, the Court noted that, in determining reliability, the trial judge is permitted, but not required, to consider the degree to which the theory or technique is generally accepted in the relevant scientific community. "Widespread acceptance can be an important factor in ruling particular evidence admissible…."[21] Accordingly, although *Frye* may no longer be *the* standard for admissibility, general acceptance remains a part of the analysis, and in many cases its presence may alone be sufficient to admit the evidence.

2. Relevance of the Evidence

The Court noted that the second prong of its test — that the evidence assist the trier of fact — is related to the concept of "relevancy" set forth in Federal Rules of Evidence 401 and 402.[22] Rule 401 defines relevant evidence as that evidence which has "any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence." The Court in effect held that evidence meeting the foregoing definition would necessarily "assist the trier of fact" and thereby satisfy that prong of Rule 702. According to the Court, the "helpfulness" prong of Rule 702 requires "a

[16] *Id.* at 2796-97.

[17] *Id.* at 2796.

[18] *See Stanczyk v. Black & Decker, Inc.,* 836 F. Supp. 565,567 (N.D. Ill. 1993).

[19] *Daubert,* 113 S. Ct. at 2797.

[20] *Id.*

[21] *Id.*

[22] *Id.* at 2795.

valid scientific connection to the pertinent inquiry."[23] Referred to colloquially as "fit," it mandates a logical nexus between the scientific expert evidence at issue and the particular facts of the case.[24]

C. The Importance of *Daubert*

It is unlikely that the *Daubert* decision, in and of itself, will bring about much change in what scientific expert evidence is admitted by trial judges in those circuits which previously followed *Frye.* Certainly, the early returns support this conclusion.[25] Although it is true that most of the lower federal court cases which have cited *Daubert* either simply refer to the case or merely restate the holding without offering any significant discussion, at least a tentative generalization can be drawn from some of them: The results being reached under *Daubert* are little different from what would have been reached under the *Frye* test. The reason seems to be that, although general acceptance in the relevant scientific community is less likely to be dispositive under *Daubert,* in many cases it can be. For example, the Seventh Circuit in *Porter v. Whitehall Labs., Inc.*[26] relied on *Daubert* in affirming a summary judgment for the manufacturer of ibuprofen in a products liability action. The court held that the plaintiff's experts' testimony (that ibuprofen caused plaintiff's renal failure) was not properly grounded in scientific method.[27] The court relied on the *Daubert* factors, including particularly the general acceptance factor drawn from *Frye.*[28]

Nevertheless, *Daubert* will have important repercussions going forward. First, those courts which before *Daubert* placed heavy emphasis on the "helpfulness" of proposed evidence will be required to apply a more rigorous standard. Although the "helpfulness" approach likely meets the relevance prong of the Daubert test, it does not assess the "reliability" of scientific expert evidence. Clearly, application of that aspect of *Daubert by* those courts should lead to more rulings excluding arguably relevant but unreliable evidence than in the past.

Second, *Daubert* requires trial judges to reach and articulate their admissibility determinations in a more thoughtful, analytical manner. *Daubert* itself provides the framework for the trial judge to follow in making and recording that analysis. As a

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[23] *Id.* at 2796.

[24] *Id.*

[25] As of March 1, 1994, a total of sixty-eight federal court decisions included citations to *Daubert,* including two Supreme Court decisions, thirty-one Courts of Appeals decisions, thirty District Court decisions, one Court of Federal Claims decision, one Tax Court decision, two decisions of the United States Court of Military Appeals, and one decision of the United States Army Court of Military Review. An excellent summary of many of the early post-*Daubert* cases can be found in Bert Black, *the Judicial Reaction to Daubert,* SHEPARD'S EXPERT & SCI. EVID. Q. 319 *passim* (Fall1993).

[26] 9 F.3d 607 (7th Cir. 1993).

[27] *Id* at 616.

[28] *Id.* at 615-16.

result, the decision should ensure that rulings concerning the admission of scientific expert evidence in the future will be made after more careful consideration of the pertinent standards than has often been the case in the past.

The court in *Daubert* provided little specific guidance to district judges as to how they should accomplish this gatekeeping role procedurally. The *Daubert* decision has, however, focused the entire trial community, both courts and lawyers, on the need to fashion an effective and workable framework for this process. That subject is discussed at greater length in Part III of this report.[29]

Third, lower courts will no doubt be influenced by the proposition that, as clearly stated in *Daubert,* the focus of the trial judge's scrutiny should be on the principles and methodology used by the expert, *not* on the conclusions reached (except as to "fit").[30] Thus, the trial judge is tasked with making the preliminary assessment of whether the underlying principles and methodology are valid and whether they *can* be applied to the facts in this case. By determining that the underlying principles and methodology are valid and that they can be applied to the facts at issue, the trial judge ensures that the conclusions reached have some minimal level of reliability and probative value. The *sufficiency* of the evidence by itself to establish a fact in issue or the weight to be given the evidence, however, are not to be determined in the preadmission inquiry. Whether the conclusions asserted to flow from the stated premises of the testimony in fact follow, and how persuasive those conclusions are in light of all the facts of the case, are questions left for the finder of fact, as monitored by the judge through such tools as instructions on burden of proof and the power to grant summary judgment or judgment as a matter of law during or after trial.[31]

The Supreme Court's differentiation between underlying methods and ultimate conclusions reinforces the crucial distinction between determining admissibility of evidence under Rule 702 and determining the weight or sufficiency of evidence. By concentrating the judge's gatekeeper role on a review of the underlying principles and methodology, the Court recognizes that competent analysis and review of the ultimate conclusions reached and how well those conclusions follow from the stated premises must be determined by the fact-finder after the evidence has been

[29] *See infra* pp. 10-16.

[30] *See Daubert,* 113 S. Ct. at 2796; see *also United States v. Bonds,* 12 F.3d 540, 556 (6th Cir. 1993).

[31] *Daubert,* 113 S. Ct. at 2798. For example, in *In re Joint E. & S. Dist Asbestos Litig. (Maiorana v. National Gypsum Co.),* 827 F. Supp. 1014 (S.D.N.Y. 1993), *appeals docketed,* No. 93-7829 (2d Cir. Aug. 9, 1993), No. 93-7853 (2d Cir. Aug. 20, 1993), No. 93-7859 (2d Cir. Aug. 23,1993), No. 93-7871 (2d Cir. Aug. 25,1993), No. 93-7891 (2d Cir. Aug. 30, 1993), No. 93-7893 (2d Cir. Aug. 31, 1993), the trial court granted defendants' motion for judgment as a matter of law after the jury returned a multimillion dollar verdict for plaintiff. The court cited *Daubert* for the proposition that the trial judge *qua* gatekeeper has the task of protecting the jury from purportedly scientific expert evidence which ultimately (after all the proof is in) fails to satisfy the sufficiency criterion and misleads the jury in arriving at its verdict. 827 F. Supp. at 1025.

tested through vigorous cross-examination and the presentation of rebuttal evidence and after it has been analyzed in light of all of the evidence and according to the judge's instructions on burden of proof.

Fourth, a benefit likely to flow from the preliminary admissibility determination required by *Daubert* is protection of the jury from unnecessary confusion. Because of the powerful and potentially misleading nature of expert testimony, it is imperative that the trial judge determine, at the outset, whether the probative value of this evidence outweighs the dangers of unfair prejudice, confusion, misleading quality, undue delay and the other evils spelled out in Federal Rule of Evidence 403.[32]

Because the relevance and reliability of evidence under Rule 702 determine its "probative value," the threshold admissibility test required by the Court in *Daubert* is, in many respects, really a restatement of the judge's role under Rule 403. Under Rule 403, the court must evaluate the potential probative value of the evidence in light of its potential for misleading or confusing the jury. In the case of scientific expert evidence under Rule 702, the same evaluation is required under Rule 104(a).

In sum, what the Court did in *Daubert* was to require that trial judges consciously do what is in reality a basic task of a trial judge — ensure the reliability and relevance of evidence without causing confusion, prejudice or mistake. *Daubert* seeks to ensure that this result is accomplished with respect to scientific expert evidence through a suggested analytical framework.

II. The Implications of *Daubert* with Respect to Non-Scientific Expert Evidence

Rule 702 governs the admissibility of expert evidence concerning not only "scientific," but also "technical, or other specialized knowledge."[33] In his separate opinion in *Daubert,* Chief Justice Rehnquist raised the questions whether and to what extent the principles outlined in Justice Blackmun's opinion for the majority are to be applied when the issue is the admissibility of *non-scientific* expert evidence.[34] Justice Blackmun did not explicitly address this question, beyond noting that his opinion's discussion was "limited to the scientific context because that is the nature of the expertise offered here."[35] The applicability of the *Daubert* analysis to non-scientific expert evidence is an important issue and should be addressed in a definitive way and at any early time by the courts of appeals.

We urge that it is preferable that there be a single conceptual framework for evaluating the admissibility of all types of expert evidence. Although it may be attractive to academics and ubiquitous CLE speakers to construct a complex "Daubertology" discipline in which fine distinctions are drawn among types of expert testimony, that result would be harmful both to the doing of justice and to our system of advocacy. Justice Blackmun observed in *Daubert* that the law "must

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[32] *Daubert,* 113 S. Ct. at 2798 (quoting Jack B. Weinstein, *Rule 702 of the Federal Rules of Evidence is Sound; It Should Not be Amended,* 138 F.R.D. 631, 632 (1991)).

[33] FED R. EVID. 702.

[34] *Daubert,* 113 S. Ct. at 2800.

[35] *Id.* at 2795 n.8.

resolve disputes finally and quickly."[36] And, as the First Circuit has recently pointed out in a decision applying *Daubert,* it is the lot of trial judges "to make swift battlefield decisions on tangled evidentiary matters ...."[37] Given the combination of the enormously crowded dockets of the federal district courts and the apparent need for those courts to hold *"Daubert* hearings" with respect to challenged expert testimony, it is highly desirable that trial judges have a single standard to apply — at least to the extent that the reasoning in *Daubert* permits.

But it is not the trial courts alone which must wrestle with *Daubert* Justice Blackmun recognized the importance of the adversary system to the process of evaluating and presenting expert evidence.[38] For advocates to carry out this role effectively, they need to know with as much certainty as possible what the standard for admissibility is going to be in a particular case. Without that knowledge, it would be difficult to make judgments about what experts to engage, what expert testimony to proffer, and what attacks to mount against an adversary's proposed evidence. Nothing would be more destructive to the effectiveness of a trial lawyer's pretrial preparation than to be faced with multiple standards, the applicability of which will not be resolved in many cases until the eve of trial.

The Chief Justice put the right question in his separate opinion in *Daubert.* "[D]oes Rule 702 actually contemplate that the phrase 'scientific, technical, or other specialized knowledge' be broken down into numerous subspecies of expertise, or did its authors simply pick general descriptive language covering the sort of expert testimony which courts have customarily received?"[39] We believe the answer to be that there is no sound basis for applying one admissibility standard to "scientific" evidence and another or other standards to expert testimony concerning technical or other specialized knowledge. The Notes of the Advisory Committee with respect to the 1973 proposed rules do not suggest a different answer.[40] Although the Advisory Committee did not address the standard of admissibility explicitly, to the extent they generalized, no distinction was drawn among types of expert testimony.[41] For example, on the question whether a "situation is a proper one for the use of expert testimony," the Committee asserted that that issue "is to be determined on the basis of assisting the trier," with no discussion of possible alternative standards depending upon the character of the proffered evidence.[42]

Equally importantly, a careful reading of Justice Blackmun's opinion in *Daubert* leads to the conclusion that the general principles of the decision, though not necessarily those specifics which on their face are directly related to the scientific

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[36] *Id.* at 2798.

[37] *United States v. Sepulveda,* Nos. 92-1362, 92-1364, 92-1366, 92-1367, 92-1369, 92-1371, 92-1373, 92-1374, 92-1375, 92-1573, 92-1574, 92-1629, 1993 WL 516354, at *15(1st Cir. Dec. 20,1993).

[38] *Daubert,* 113 S. Ct. at 2794.

[39] */d.* at 2800.

[40] FED. R. EVID. 702 advisory committee's note.

[41] *See id.*

[42] *Id.*

method, are applicable to all species of expert testimony. The requirement that the evidence be not only relevant but also "reliable" is plainly applicable to "technical, or other specialized knowledge," as well as to scientific testimony. Although Justice Blackmun's discussion centers on the methods and procedures of science, he casts his net more broadly. The very premise for the relaxation of the usual requirement of first-hand knowledge on the part of a witness is "an assumption that the expert's opinion will have a reliable basis in the knowledge and experience of *his discipline."*[43] That requirement is not phrased as one limited to scientific disciplines. Thus, to paraphrase Justice Blackmun, what the trial court must determine at the outset is "whether the reasoning or methodology underlying the testimony is … valid [under the principles of the discipline involved]."[44] So, whether the testimony concerns economic principles, accounting standards, property valuation or other non-scientific subjects, it should be evaluated by reference to the "knowledge and experience" of that particular field. To that extent, *Daubert* ought to be regarded as universally applicable to expert evidence.

On the other hand, Justice Blackmun's "general observations" about the factors that a federal judge ought to consider in evaluating the soundness of scientific methodology, set forth in part II-C of his opinion, are specifically aimed at the evaluation of scientific testimony.[45] Of course, some of these factors may be highly relevant to an evaluation of certain types of non-scientific expert evidence. For example, whether the proffered methodology can be and has been tested may very well be pertinent to an examination of non-scientific but "technical" expert evidence. Peer review and publication may be an important factor with respect to testimony involving the social sciences. And the "general acceptance" of a methodology within a particular discipline will be crucial in many cases. The point is that any one of Justice Blackmun's four factors may or may not have applicability to proffers of non-scientific expert evidence. The inquiry to be made concerns the fundamental principles by which the validity of a methodology is to be judged in the particular field of knowledge.

There have not been many decisions by lower federal courts since *Daubert* which deal with the application of that case to non-scientific expert evidence, but those courts which have addressed the question have been, for the most part, on the right track. They are applying Justice Blackmun's reliability analysis to a broad range of non-scientific testimony.[46]

What if there is no consensus within a particular non-scientific community as to its essential principles of knowledge? Or what if a court is unable to conclude that there is a "field of knowledge" at all? In these circumstances, a court should regard

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[43] *Daubert,* 113 S. Ct. at 2796 (emphasis added).

[44] *Id.*

[45] *Id.* at 2796-97.

[46] *See, e.g., Frymire-Brinati v. KPMG Peat Marwick, 2* F.3d 183, 186-87 (7th Cir. 1993) (generally accepted accounting principles); *United States v. Amador-Galvan,* 9 F.3d 1414, 1417-18 (9th Cir. 1993) (unreliability of eye-witness testimony); *Scales v. George Washington Univ.,* No. Civ. A. 89-0796-LFO, 1993 WL 304016, at *7 (D.D.C. July 27, 1993) ("workforce data evidence" in Title VII action).

the proffered testimony with considerable suspicion. In many cases, the trial court should conclude, consistent with *Daubert,* that the testimony does not constitute "knowledge," because it is not grounded on demonstrably valid reasoning or methodology. As such, it is likely to be no more than speculation.[47] Further, it may not qualify as the sort of scientific, technical or other specialized knowledge contemplated by Rule 702."[48]

III. The Trial Court's Responsibilities Under *Daubert*

A. The "Gatekeeping" Responsibility

Although the *Daubert* majority opinion provides little guidance on how trial courts should procedurally accomplish their gatekeeping responsibilities, it did refer to certain Federal Rules of Evidence which provide some aid to the trial court in determining whether proffered evidence is both reliable and relevant. The Court referred to Rule 104(a), which instructs the judge to determine "preliminary questions" concerning an expert's qualifications and the "admissibility of evidence."[49] Rule 104(b) further instructs the judge to keep track of, and insist upon, the need for each piece of evidence to be connected up to other evidence so as to ensure that "the foundation evidence is sufficient."[50] The Court also referred to Rule 706, which allows a trial judge to call an expert of the judge's own choosing, and Rule 703, which permits an expert to base an opinion on facts or data that would not themselves be admissible, but only if they are "of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject...."[51] Finally, as previously noted, the Court observed that Rule 403 provides a basis for excluding expert evidence the probative value of which is "substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury ...."[52]

The references to these rules in the *Daubert* opinion suggest the importance of a pretrial procedure by which the trial judge gathers the necessary information and evaluates both the reliability of the underlying principles and methodology employed by the proposed expert witness and the potential relevance of the proposed evidence (at times with the aid of a court-appointed expert). The trial court is then in a position to balance the reliability of the opinion's underlying principles and methodology and the potential relevance of the opinion against the dangers of unfair prejudice, confusion, misleading evidence, undue delay, waste of time and the presentation of cumulative evidence.

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[47] *See Daubert,* 113 S. Ct. at 2795 ("knowledge connotes more than subjective belief or unsupported speculation").

[48] *See Mercado v. Ahmed,* 974 F.2d 863, 868-70 (7th Cir. 1992) (affirming a trial judge's pre-*Daubert* conclusion that because there was no agreement among economists on a methodology for assigning "hedonic value" to life, such testimony should be excluded).

[49] *Daubert,* 113 S. Ct. at 2796.

[50] FED. R. EVID. 104(b) advisory committee's note.

[51] *Daubert,* 113 S. Ct. at 2797-98.

[52] *Id.* at 2798.

1. Pre-Hearing Procedures

Suggestions for Trial Courts. In jurisdictions subject to the recently adopted amendments to Rule 26(a)(2) of the Federal Rules of Civil Procedure, parties must now make a disclosure of information related to expert witnesses, including "a complete statement of all opinions to be expressed and the basis and reasons therefor."[53] It would clearly be appropriate to order, either by local rule or by special order in a particular case, that "the basis and reasons" for an expert's opinions, required to be disclosed by this Rule, include the factors which the expert (and the proponent of the testimony) claim support the validity of the methodology employed. Although the Rule does not explicitly provide that these disclosures be filed with the court, in any case in which expert testimony is to play a substantial role, the trial judge should order that a copy of the disclosure document be filed.

In jurisdictions in which the recent expert disclosure amendments to Rule 26(a)(2) have not become operative,[54] we suggest that trial courts, in going about the task of gathering information necessary to make an admissibility evaluation, employ a questionnaire or disclosure requirement as part of a standard pretrial order. The questionnaire or pretrial order would require the litigants, with respect to each expert designated, to address the four factors listed in *Daubert,* if the proposed evidence is "scientific" in nature. If, however, the subject matter of the testimony relates to another field of specialized knowledge, the proponent would be required to state the principles on which it relies in asserting that the expert's methodology is sound. Counsel for other parties should be permitted to submit comments with respect to the proponent's submissions made pursuant to the questionnaire or pretrial order. These filings would identify points of contention to be addressed by the court in a pretrial conference or at a more formal Rule 104 hearing concerning the admissibility of the expert testimony. An inadequate response to the questionnaire or pretrial order would result in failure to qualify the witness.

Timing is an important consideration in these matters. If disclosures are made very late in a case (say, not later than 90 days before trial, which is the requirement of Rule 26(a)(2) in the absence of other direction from the court), there may not be

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[53] FED. R. Civ. P. 26(a)(2)(B); *see also Robinson v. Missouri Pac. R.R.,* Nos. 92-6099 92-6112, 1994 WL 48505, at *5 (10th Cir. Feb. 15, 1994) (Rule 26(a)(2)(B) "will permit an early and full evaluation of [the] evidentiary problems [posed by scientific expert opinions and films or animations illustrative of such opinions]").

[54] A recent study conducted by Alfred W. Cortese, Jr., Esq. of Washington, D.C., indicates that the following twenty-two federal district courts have opted out of or modified some or all of the provisions of FED. R. Civ. P. 26(a)(2), as applied to most or all civil cases: N.D. Ala., C.D. Cal., E.D. Cal., S.D. Cal., D. Conn., D. Haw., D. Idaho, N.D. Iowa, S.D. Iowa, E.D. La., M.D. La., E.D. Mich., W.D. Mich., D.N.H., N.D.N.Y., S.D.N.Y., W.D.N.Y., E.D. Okla., N.D. Tex., D. Vt., W.D. Wash., E.D. Wis. In addition, the following eight federal district courts have opted out of FED. R. Civ. P. 26(a)(2) in certain limited categories of cases such as prisoner petitions, bankruptcy matters and social security appeals: E.D. Ark., N.D. Cal., C.D. Ill., W.D. Ky., D.N.J., D.N.M., E.D.N.C., N.D.W. Va. *Cf.* DONNA STEINSTRA, IMPLEMENTATION OF DISCLOSURE IN FEDERAL DISTRICT COURTS, WITH SPECIFIC ATTENTION TO COURTS' RESPONSES TO SELECTED AMENDMENTS TO FEDERAL RULE OF CIVIL PROCEDURE 26 (Fed. Jud. Ctr. Mar. 1, 1994).

enough time for the parties to do the work necessary to present the admissibility issue in an understandable fashion or for the court to make an informed judgment about the matter, particularly if complex scientific testimony is involved. The Rule provides that disclosures concerning expert testimony "shall be made at the times and in the sequence directed by the court."[55] Trial courts should make ample use of this authority when scheduling orders are entered in "expert heavy" cases, after conferring with counsel about what is appropriate in the particular case.

Responsibilities of Counsel. Counsel can greatly assist the trial court in gathering the necessary information for an admissibility determination. It is plainly counsel's responsibility to bring to the attention of the trial judge at an early time the need for the court to pay special attention to the issue of expert evidence in a particular case. Given the condition of the dockets of trial courts, and the fact that Rule 26(a)(2) does not require the disclosures to be filed with the court, a trial judge may very well not learn about the need for special treatment with respect to expert evidence until it is too late to be meaningful without postponement of the trial. This notice function which trial counsel must perform can be carried out in any one of a number of ways, including a request for a scheduling conference, submission of a proposed scheduling order that deals with the timing and sequence of Rule 26(a) disclosures and expert discovery, and the presentation of motions to compel if the adverse party is not forthcoming with respect to discovery requests concerning expert evidence.

It is clearly the responsibility of counsel to carry out in a timely fashion the available discovery techniques with respect to expert evidence. For example, whether or not the necessary information is disclosed pursuant to Rule 26(a)(2), counsel should timely depose the opposing expert to obtain information relevant to the validity of methodologies employed, including the four enumerated *Daubert* factors.

If the substance of the Rule 26 disclosures and expert deposition testimony is such that there appears to be a genuine issue as to the admissibility of the evidence, counsel should bring the matter to the attention of the trial court as soon as possible. A pretrial conference to discuss the issue[56] or a request for a Rule 104 hearing are the obvious vehicles; which is the better course will depend on whether there is an applicable local rule or individual judge's rule and, in the absence of such a rule, counsel's assessment of the preference of the particular trial judge. Counsel should file with the trial judge (and deliver to any court-appointed expert) all the information produced in conformance with Rule 26 and in response to any trial court questionnaire or pretrial order, and any relevant discovery materials, *before a* Rule 104 hearing, in order to give the court and any court-appointed expert a chance to review the information in advance.

2. The Rule 104(a) Hearing

Daubert mandates that "[f]aced with a proffer of expert scientific testimony, then, the trial judge must determine at the outset, pursuant to Rule 104(a), whether

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[55] FED. R. Civ. P. 26(a)(2)(C).

[56] Amended Rule 16, FED. R. Civ. P., includes as a pretrial conference subject "the possibility of obtaining... advance rulings from the court on the admissibility of evidence." *See Robinson,* 1994 WL 48505, at *10 n.6.

the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue."[57] Rule 104(a) provides, in part, that "[preliminary questions concerning ... the admissibility of evidence shall be determined by the court------" As Justice Blackmun pointed out in *Daubert*, the trial court's conclusion "should be established by a preponderance of proof."[58] Thus, the proponent of admissibility must establish by a preponderance of proof that the proffered evidence meets both the reliability and the relevance prongs of the *Daubert test.*

In many cases, it will be difficult for the court to evaluate the evidence presented at a Rule 104(a) hearing. Chief Justice Rehnquist, in his separate opinion in *Daubert,* saw in the majority's approach a danger that federal judges would attempt to become "amateur scientists" in an effort to perform this part of their gatekeeping responsibilities.[58] Clearly many judges and trial attorneys lack the background and training necessary to evaluate complex scientific issues.[60] This has always been one reason for the appeal of the *Frye* "general acceptance" test, and probably accounts for its survival as one of the four factors enumerated in *Daubert* as bearing on reliability.

Use of Court-Appointed Experts. One solution to this problem in appropriate cases is for trial courts to exercise more frequently their power under Rule 706 to appoint experts to help them assess the quality of the scientific expert evidence.[61] Although trial judges have been reluctant to use their power under Rule 706 to appoint independent experts to be substantive witnesses at trials, they should be more receptive to using experts in the more limited role of assisting in the evaluation of proffered scientific expert evidence at a Rule 104(a) hearing. Thus, a court can undertake the difficult task of comprehending and evaluating methodologies underlying proffered scientific expert evidence with the assistance of competent, independent expert testimony. The appointed expert's testimony should be limited to the appropriateness of the witness's reasoning and methodology and not extend to the validity of the witness's conclusions.

In rare cases, and despite the expense, it may be useful to appoint a Rule 706 "expert expert panel" and permit the panel to be questioned and cross-examined at a court-supervised pretrial hearing, That would eliminate duplicative discovery and minimize the burden on the appointed experts.[62] Thus, as Judge Weinstein has pointed out, where the court-appointed expert does not testify at trial, the expert's

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[57] *Daubert,* 113 S. Ct. at 2796.

[58] *Id.* at 2796 n.10.

[59] *Id.* at 2800.

[60] *See* JACK WEINSTEIN & MARGARET BERGEH, WEINSTEIN'S EVIDENCE **¶ 702[03], at 702-35 (1993).**

[61] *See generally* Memorandum and Order on Motion to Quash Notice of Subpoena in *In re Joint E. & S. Dist. Asbestos Litig. (In re Johns-Manville Corp.),* 151 F.R.D. 540 (E. & S.D.N.Y. 1993) (hereafter *"Johns-Manville");* JOE S. CECIL & THOMAS E. WILLGING, COURT APPOINTED EXPERTS: DEFINING THE ROLE OF EXPERTS APPOINTED UNDER FEDERAL RULE OF EVIDENCE 706, at 88-95 (Fed. Jud. Ctr. 1993).

[62] *Johns-Manville,* 151 F.R.D. at 544-46.

role can be characterized as that of "technical advisor" to the court, and depositions of such experts may not be required.[63]

Judicial Notice. Trial judges have an additional mechanism for effectively exercising their responsibility to evaluate the reliability of proffered scientific expert evidence: They can take judicial notice of other courts' opinions. The Eighth Circuit did just that in *United States v. Martinez*[64] In that case, the Eighth Circuit affirmed the lower court's admission of DNA profiling evidence in a prosecution charging aggravated sexual abuse of a minor. The *Martinez* court observed that the Second Circuit had recently examined the general theory underlying DNA fingerprinting, as well as the specific techniques used by the FBI, and had concluded "that in the future courts could take judicial notice of their reliability."[65] Because the Second Circuit's reliability approach was similar to that taken in *Daubert,* the Eighth Circuit panel adopted the Second Circuit's conclusions and held that the general theory and techniques of DNA profiling are valid under the holding in *Daubert.*[66] In individual cases, factual questions will remain concerning, *inter alia,* whether the techniques were performed appropriately and under appropriate circumstances.

3. Summary Judgment

In *Daubert,* Justice Blackmun responded to concerns that abandonment of the *Frye* test would lead to a "'free-for-all' in which befuddled juries are confounded by absurd and irrational pseudoscientific assertions."[67] Among the points he made was the observation that if the trial court concludes that "the scintilla of evidence presented supporting a position is insufficient to allow a reasonable juror to conclude that the position more likely than not is true," the court may grant summary judgment before trial or direct a judgment as a matter of law under Rule 50(a) during trial.[68]

Trial courts ought to make full use of these powers. The benefits are obvious of avoiding entirely or shortening a lengthy and complex jury trial, or even a complicated claim or defense, when the court concludes that there is no genuinely disputed issue of material fact. Of course, in such a case it is always better, if possible, to grant summary judgment before trial than to direct a judgment during trial, simply to conserve the resources of the court and the parties.

If the ground upon which summary judgment is sought is that an essential element of a claim (such as causation) depends entirely on expert testimony which is attacked as inadmissible, the determination of admissibility under Rule 104(a) must precede, or be resolved contemporaneously with, the motion for summary judgment. A side benefit of an antecedent Rule 104(a) hearing is that the court can

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[63] *Id.* at 544; *see also Reilly v. United States,* 863 F.2d 149, 157 (1st Cir. 1988).

[64] 3 F.3d 1 191, 1 197 (8th Cir. 1993), *cert. denied,* 114 S. Ct. 734 (1994).

[65] *Id.*

[66] *Id.* (citing *United* States *v. Jakobetz,* 955 F.2d 786, 799-800 (2d Cir.), *cert. denied,* 113 S. Ct. 104 (1992)).

[67] 113S. Ct. at 2798.

[68] *Id.*

gain a much better understanding of the issues in the case and how the proposed expert evidence relates to those issues, and thus be in a better position to make an informed decision about a later motion for summary judgment. Indeed, the resolution of the prior Rule 104(a) hearing may obviate the need for, or dictate the result of, the later summary judgment motion.

If, on the other hand, the issue is not the admissibility of the expert evidence but, rather, its sufficiency to raise a genuinely disputed issue of material fact, no antecedent evidentiary hearing is required. The court simply judges the sufficiency on the basis of the summary judgment materials properly before it. It should be observed, however, that if the scientific issues are not easily understood, it will be much easier for the court to rule on the sufficiency point if there has been a prior admissibility hearing under Rule 104(a). In that circumstance, even though the court has ruled the evidence to be admissible under the *Daubert* standard, as both reliable and relevant, the knowledge gained in that hearing will almost certainly enhance the judge's familiarity with the issues and facilitate resolution of the sufficiency question on a summary judgment motion. Moreover, absent a Rule 104(a) hearing, trial courts are more likely to permit the proponent to introduce admissible, though possibly insufficient, evidence at trial, at least until the court has heard enough to be comfortable with a decision that the evidence is insufficient for a reasonable juror to find for that party. In many cases this approach may, in the long run, actually save resources by avoiding reversals on appeal from grants of summary judgment.

B. Issues During Trial

If the trial court and trial counsel have discharged their respective responsibilities before trial, the court should not have to rule on admissibility of scientific or other complicated expert evidence during trial, except in simple cases or in dealing with "surprise" evidence (which usually will be excluded, in any event, for failure to comply with pretrial orders). To the extent that the issue arises during trial, under *Daubert* the burden remains on the proponent to demonstrate by a preponderance of proof the reliability and relevance of the proffered evidence.

The principal issue for the judge at trial, therefore, is likely to be how to conduct the trial in order to maximize the jury's ability to understand the expert evidence. Justice Blackmun's answer in *Daubert was* the right one: No one should be "overly pessimistic about the capabilities of the jury, and of the adversary system generally. Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence."[69] Thus, once the court has ruled that expert evidence is admissible, and assuming its sufficiency, a large part of the responsibility for making it understandable to the jury passes to the trial lawyers.

The trial court should make certain that those lawyers have the tools to carry out this responsibility. The court should consider, particularly in complex cases, such devices as an expanded *voir dire* in which counsel can discuss the expected expert testimony in the context of potential juror biases, the opportunity for counsel to make "mini-arguments" about the expert evidence both before and after its presentation (rather than having to defer that discussion to closing argument), and

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[69] 113 S. Ct. at 2798.

the right of counsel to have the assistance of their own experts while conducting cross-examination.[70]

CONCLUSION

Before the Supreme Court's June 1993 *Daubert* decision, lower federal courts disagreed as to the proper standard for determining the admissibility of scientific expert evidence. In *Daubert,* the Supreme Court not only resolved that disagreement, but in doing so proposed an analytical framework that will lead to sounder and more consistent rulings on the admissibility of not only scientific, but also non-scientific, expert evidence. As this report has shown, trial lawyers and trial judges have numerous tools at their disposal under the Federal Rules of Civil Procedure and the Federal Rules of Evidence to crystallize and resolve issues of the admissibility of expert evidence at the earliest practicable time in a litigation.

April 1994*

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[70] *See* FED. R. EVID. 615(3).

*This report was prepared by an ad hoc subcommittee (David J. Beck, Gregory P. Joseph, James F. Stapleton and Fletcher L. Yarbrough (Chair)) of the Federal Rules of Evidence Committee (Michael A. Cooper, Chair) of the American College of Trial Lawyers. The Executive Committee and Board of Regents of the American College of Trial Lawyers have approved the report.