

Expertise and the Supreme Court: What is the Problem?

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Much to my delight, having actually quite enjoyed my legal education, I have been called on by a law professor for the first time since law school to express my understanding of an important legal issue. Unlike days of yore when students went to class at their peril, never knowing if that was their fateful day, I was given much advance notice by the professor. Quite like days of yore, by contrast, this particular professor may be the world's leading expert in the question posed, and thus in the grand tradition of law students I am at risk of saying silly things that will quickly be exposed as such. Professor Risinger has directed me to address the related questions of how federal courts are now to "approach formulating the issue to which reliability criteria are to be applied," and whether "in a fundamental way how to frame the question is as important a part of proper evaluation of expert reliability as the criteria to be applied in order to arrive at an answer."¹ Professor Risinger has given some considerable thought to these questions, as has Professor Moreno.² Guided by them, now, too, have I, although whether as usefully as they is surely problematic. In what follows, I first provide some introductory perspectives on these interesting questions. I then summarize Professors Risinger's and Moreno's assessments, and conclude with my own.

Harkening back again to my days as a law student, I was once called on by the intimidating Professor Palmer to recite concerning a very complex case of restitution, of which I had only the vaguest comprehension. I did know that the entire litigation, being over a total of \$15, was a colossal waste of social resources, and perhaps

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¹ Letter from Michael Risinger, Professor of Law, Seton Hall University School of Law (May 20, 2002) (on file with author).

² See, e.g., D. Michael Risinger, *Defining the "Task at Hand": Non-Science Forensic Science After Kuhmo Tire Co. v. Carmichael*, 57 WASH. & LEE L. REV. 767 (2000); see also Joelle Anne Moreno, *Beyond the Polemic Against Junk Science: Navigating the Oceans that Divide Science and Law with Justice Breyer at the Helm*, 81 B.U. L. REV. 1033 (2001).

thinking that by getting rid of the case I could get rid of my immediate problem, so informed him and the class that the case should have been dismissed on grounds of inconsequentiality. Professor Palmer, thinking the class was about restitution rather than social policy, asked me simply to confess to being unprepared the next time I was when called upon, thus preserving the social resources of the class, and went on to someone else.

I have no doubt that, in a class on the law of restitution, Professor Palmer did the right thing. I have considerable doubt, by contrast, that it is very useful to ask how to frame the issue to which reliability criteria are to be applied in the context of the Supreme Court cases, viewing the matter as internal to them. This question arises in particular with respect to the relationship between *Kumho Tire Co. v. Carmichael*³ and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*⁴ I believe the import of the question is: How are we to apply the standards of *Daubert*, fashioned with respect to “science” that is fairly unproblematic in terms of its internal organization and criteria of validation, to the enormous range of issues that inhabit the countryside between the borders of accepted science with reasonably rigorous methods of validation and conventional knowledge that needs no special care and feeding? That countryside is wild and unruly, involving all forms of knowledge and experience barely beyond what could reasonably be expected to be known or experienced by jurors that lack reliable means of validation akin to normal science.

To “apply” the standards of *Daubert* to this vast and forbidding landscape, as *Kumho Tire* directs, seems to result in a significant mismatch between tool and task. *Daubert* was fashioned with normal science in mind and invokes standard criteria of scientific validation, such as controlled studies and the like. The very essence of the untamed land leading from there to conventional knowledge is that its inhabitants cannot be domesticated by such tools; otherwise there would be no problem. So, basically, the Supreme Court has instructed the lower courts to apply standards that simply do not apply. Thus, Professor Risinger’s question to me: how do we go about specifying the criteria that will satisfy *Kumho Tire*’s demand?

As plainly the answer does not reside in the formal relationship between *Daubert* and *Kumho Tire*, the answer must come instead from an analysis of the system as a whole. The real question being asked is how expert testimony fits into the administration of justice more

³ 526 U.S. 137 (1999).

⁴ 509 U.S. 579 (1993).

generally. The answer to that question is informed by the central concern of the Supreme Court cases—verifiable reliability of evidence—but it is informed by much more.

Consider briefly how much more. Reliability is itself not anyone's ultimate goal; it is instead instrumental to accurate adjudication. But accurate adjudication is not the only star in the firmament in many people's eyes. It competes with notions of fairness, and the two can be at odds.⁵ Fairness, in turn, can have many meanings that again can be in tension, such as dignity and autonomy, and the whole ball of fairness wax can itself be in conflict with the goal of wealth redistribution (or an elaboration on it).

To make matters more complex still, there may be what I will refer to as technical desiderata apart from the grand issues of fairness and the like—matters internal to the legal system that bear upon this question. An obvious candidate is the set of constraints on the government in criminal cases that perhaps should impose higher evidentiary burdens on the government than in civil cases, or more generally whether civil and criminal cases pose different problems.⁶ Others are conventional and traditional modes of proceeding, such as, in no particular order, party control of litigation, adversarial presentation, historic and constitutional role of juries, role and obligations of trial judges (such as preserve resources, in addition to facilitating fairness and accuracy). Resting somewhat uneasily beside all this is a conception of procedural rules, including rules of admissibility, as incentive devices to promote or discourage certain types of behavior, and of course which behavior is to be encouraged or suppressed may itself be an object of dispute.⁷ Expert testimony is a critical component of the administration of justice that touches directly all these issues; it is both a constituent of them and determined by them. That is why the question Professor Risinger has both studied and propounded to me is so critical, and at the same time, so difficult.

I suspect it is in part the influence of the more general issue of

⁵ *Faretta v. California*, 422 U.S. 806 (1975), is a good example of the conflicts between differing conceptions of fairness, as the aftermath of *Faretta* played out the distinction between dignity and autonomy. See also *McKaskle v. Wiggins*, 465 U.S. 168 (1984).

⁶ See Michael H. Gottesman, *Admissibility of Expert Testimony After Daubert: The "Prestige" Factor*, 43 EMORY L.J. 867, 877 (1994); D. Michael Risinger, *Navigating Expert Reliability: Are Criminal Standards of Certainty Being Left on the Dock?*, 64 ALB. L. REV. 99, 100-02 (2000).

⁷ Compare, e.g., Ronald J. Allen et al., *A Positive Theory of the Attorney-Client Privilege and the Work Product Doctrine*, 19 J. LEGAL STUD. 359 (1990), with Daniel R. Fischel, *Lawyers and Confidentiality*, 65 U. CHI. L. REV. 1 (1998).

the nature of the administration of justice that causes much of the consternation about expert testimony, and that makes what might otherwise be quite straightforward issues contentious and complex. Differential rules of admissibility are justifiable if tort is seen as compensatory or wealth redistributive rather than if it is seen as designed to reduce the total cost of accidents,⁸ if one views the government skeptically or not in criminal cases, and so on. For example, if handwriting analysis were limited to civil cases, I doubt the academy would have gotten up in arms over its admissibility. Instead, it is often critical testimony in criminal trials, and thus affects the ease with which criminal convictions may be obtained. If prosecutors proffered some of the evidence proffered by civil plaintiffs to establish physical causation in some toxic torts, such as in the bendictin or parlodel litigation, the academy most likely would have been up in arms again. When the underlying issue shifts from criminal responsibility to wealth redistribution, so, too, may one's view of the matter, and so on. Thus, to answer what the proper question is concerning the admissibility of expert evidence entails a prior view of the proper role of litigation.⁹

Over the questions of the goals and purposes of the legal system, there is much disagreement. Ideological battles over the nature of the criminal process are a stable part of the legal landscape,¹⁰ as are disagreements about the teleology of the civil justice system.¹¹ I doubt that any general, useful, and uncontroversial propositions about the conditions of admissibility of expert testimony can be formulated without resolutions of these disagreements, and that is a task that exceeds my meager abilities. Here I can only note that to answer Professor Risinger's question fully will require resolution of the larger issues. As I predict that resolution will not be forthcoming quickly, I further predict that neither will a definitive resolution of Professor Risinger's question.

Given the intractability of a definitive resolution of the question, it must be approached instead in light of simplifying assumptions. The one I make here is that the litigation process is largely designed to yield accurate results—naïve realism to the max, in other words.

⁸ This is the standard debate over the meaning of negligence.

⁹ See Risinger, *supra* note 6.

¹⁰ See, e.g., RONALD J. ALLEN ET AL., COMPREHENSIVE CRIMINAL PROCEDURE 21-70 (2001).

¹¹ As the disagreement between the economics and the moralists about the nature of tort liability indicates. For a discussion, see Ronald J. Allen & Ross M. Rosenberg, *Legal Phenomena, Knowledge, and Theory: A Cautionary Tale of Hedgehogs and Foxes*, 77 CHI.-KENT L. REV. 683 (2002).

This entails complicated, complex, and controversial matters,¹² but I put all that aside *ex hypothesi*. On the assumption, then, that the rules governing the admissibility of expert testimony emanating from the Supreme Court cases are designed to advance accurate adjudication, what would they look like?

I believe that the individuals who have looked most closely at the issue are in agreement as to one significant aspect of those rules, and, if I read them correctly, both approve of it. Relying on explicit language of the Court,¹³ both Professors Moreno and Risinger have concluded that the *Kumho Tire* opinion moves district court consideration from what they call global appraisals of reliability of evidence to contextualized appraisals, and there is much to support this proposition in the Court's opinion and in the lower court decisions following in its wake.¹⁴ Moreno and Risinger are correct at least in part that the explicit language of the Court seems to have the implication they identify, and for very good reason. Simply put, no matter how well credentialed and conversant in an established field, an expert may still testify to falsehoods. These falsehoods may involve generalities of the substantive content of the relevant field or its methodology, or as either applies to the particular facts of the case at hand. Focusing attention on the field and the witness's credentials to the exclusion of the testimony in context risks encouraging abusive expert testimony practices—the now legendary junk science. Thus, the district judge must determine that the testimony is relevant to the task at hand in a localized rather than a global fashion, where that means that the expert is testifying on the basis of knowledge applied to the facts in a reliable manner.

¹² See, e.g., Mike McConville & Roger Leng, *Editorial*, 1 INT'L. J. EVID. & PROOF 253 (1997) (explaining that the special issue of the journal is structured as a "debate" of various complex matters all within a naive realist metaphysics and epistemology).

¹³ *Kumho Tire*, 526 U.S. at 153-56.

¹⁴ Moreno, *supra* note 2, at 1055. *Daubert* refocused "the admissibility inquiry to emphasize relevance and eliminate or diminish the Court's inquiry into more general questions of scientific reliability/validity." *Id.* at 1054. Furthermore, "what is clearly not consistent with *Kumho Tire* is any attempt to approach an issue of reliability globally." Risinger, *supra* note 2, at 773.

I take it to be obvious that I am using "reliable" to refer to evidence that is creditable, and not in its non-legal technical sense that distinguishes it from validity. Although much has been made of the Supreme Court's butchering of these terms in *Daubert*, in fact the technical distinction between reliability and validity does not map directly onto the legal system. Both matter, but the question for the legal system is whether evidence increases the probability of an accurate outcome for rational reasons. As I will return to later in this paper, much of the difficulty over expert testimony comes from it leading wherever it does, including to accurate outcomes, for reasons that could not be described as rational.

I say Moreno and Risinger are right *in part* that these decisions are now to be made locally rather than globally. The constraint is that expert testimony cannot advance accurate outcomes locally unless it rests on acceptable epistemological warrant globally. A necessary but not sufficient condition of appropriate testimony “locally” is reliable expertise “globally.” The testimony at trial must rest on something, obviously, and that “something” must be true, whether it is the accumulated experience of an individual accurately summarized or knowledge of highly systematic disciplines. That global reliability is not sufficient to ensure local reliability is precisely why *Kumho* was decided as it was, but *Kumho* cannot also stand for the proposition that global reliability is not a necessary element. Without global reliability, one has gibberish. Thus, the logical relationships underlying the Supreme Court’s cases require that both the global and the local issues be resolved favorably before an expert should be allowed to testify. As Risinger points out, astrologers may or may not be quite reliable in their testimony, now using the term “reliable” in its normal scientific sense of procedures reaching consistent results; it is the lack of validity—an underlying verifiable factual basis—to astrology that results in its exclusion at trial.¹⁵

It appears to me that the move to the local in *Kumho* was driven purely by the Supreme Court’s recognition that, no matter how well established a field is, an expert could still testify to complete junk unless the actual relationship between the testimony and the field is assessed and found sufficient. Thus, I do not think that *Kumho* so much changed the question emanating from *Daubert* as it added another layer to it; henceforth in every case district judges must determine that a proffered witness both possesses and is appropriately applying an expertise, which require that there be in fact an expertise. In fact, I would go further and say that this addition was a perfectly predictable and plainly necessary emendation on *Daubert*.¹⁶ Thus, to the extent that my assignment was

¹⁵ Professor Risinger puts this in terms of a rejection of astrologers’ “methods of conclusion.” Risinger, *supra* note 2, at 776. I think what he is saying here is that astrology is superstition, not science, and we know that because we have very good warrant to believe that we live in a physically causal universe, where it is intentionality of minds rather than the motions of planets that causes people to behave as they do. That this is Professor Risinger’s view is clarified in D. Michael Risinger, *Preliminary Thoughts on a Functional Taxonomy of Expertise for the Post-Kumho World*, 31 SETON HALL L. REV. 508, 524 n.28 (2000) [hereinafter Risinger, *Functional Taxonomy*], pointing out that “there is no replicated and statistically significant evidence that astrologers can predict the future.” That is a global assessment, of course.

¹⁶ Professor Risinger may disagree with this. See Risinger, *supra* note 2, at 782 (criticizing a lower court that had taken a “global” position on document

motivated in part by the possibility that *Kumho* sent the expert testimony process in a new direction from that of *Daubert*, the answer to what question is to be asked of the expert post-*Kumho* is precisely whatever questions should have been asked post- (and for that matter pre-) *Daubert*, to-wit: Does the expert in fact possess knowledge useful to this trial that is being brought to bear upon it in a way that increases the probability of accurate outcomes? That *Kumho* dealt with purported expertise outside of the range of conventional scientific inquiry was just a happenstance from this perspective.¹⁷ Before long a “normal science” case would have come along with a well-credentialed expert willing to offer testimony that overleaped the expert’s knowledge or data, and the Court would have disapproved of it. The Court just simply killed two birds with the *Kumho* stone by clarifying the reach of FRE 702 and that junk science cannot be presented by real scientists or other experts willing to violate their oaths.¹⁸

At this level, then, the only point of interest that comes from analyzing Professor Risinger’s assignment to address how the lower courts are to “approach formulating the issue to which reliability criteria are to be applied” is perhaps that the dustup over what *Kumho Tire* did to *Daubert* was largely beside the point. *Kumho Tire* merely applied *Daubert* in the only way (that I can see at any rate) that makes sense, if accurate adjudication is the desideratum.

There is a second aspect to this assignment, though. Even if there is not a “global” change from *Daubert* to *Kumho* with respect to the conditions of admissibility of expertise, still *Kumho* did clarify that FRE 702 applies in some fashion to expertise from fields that lack the epistemological warrant of much modern science, with its controlled

examination). He wrote, “[t]his unanalyzed global approach is now clearly unavailable after *Kumho Tire*.” *Id.* It is only unavailable as a sufficient condition of admissibility; it is plainly necessary.

¹⁷ It was not a happenstance for the question of the scope of *Daubert*, of course.

¹⁸ Professor Risinger makes a tantalizing allusion to this position when he says of the expert in *Kumho Tire* that “[s]ubstantial experience of relevant similarity to what is at issue in the case at hand is a necessary condition for the reliability of experience-based expertise, but in most contexts it is not a sufficient condition to establish reliability.” Risinger, *supra* note 2 at 775. He does not develop further the relationship between necessary and sufficient conditions.

Similarly, Professor Moreno at one point says: “judges must work to uncover mistakes in both the scientific methodology and its application to the particular facts of a case.” Moreno, *supra* note 2, at 1071. I am unsure how these points relate to both authors’ emphasis on the local. In any event, the thesis of this Article is that the relationship between necessary and sufficient conditions is the key to understanding the conditions of admissibility of expert testimony, which in turn requires both “global” validity and “local” reliability (in evidentiary terms).

studies, peer review, and the like. Can anything systematical be said about the conditions of admissibility of the many different kinds or forms of expert knowledge that reside in the landscape ranging from *Daubert* to *Kumho*? Again, Professor Risinger is leading the way in this regard. In an important article, he has sketched out a preliminary functional taxonomy of expertise in which he usefully distinguishes between experts who will or can educate the fact finder as to the underlying discipline, thus putting the fact finder in a position rationally to appraise the evidence, and what he calls “translational” experts, which are those who will provide opinions about the evidence to which fact finders can defer.¹⁹ He further provides an insightful analysis of translational expertise, highlighting the various ways in which it can go wrong, thus highlighting the hurdles that judges should impose before admitting evidence of this sort. Perhaps part of his assignment to me included developing further this taxonomy.

But I demur, although not out of disrespect. Quite the opposite, in fact, because I think he has said all there is to say about the matter, and has given detailed, useful examples. All that remains to be done is to apply his central point to the myriad cases of expertise that will arise, which will happen, appropriately, in a common-law fashion over time.

What, then, has he said? His basic point is that judges must be convinced that an expert is testifying on the basis of knowledge rather than caprice, superstition, or whatever, but that the basis of that demonstration will vary over the discipline in question. Precisely so. To translate this into my own terms, he has taken the distinction that Joe Miller and I advanced between educating the fact finder and providing an opinion to which it can defer and applied it to the judge in its role of determining the admissibility of evidence.²⁰ This is a powerful point, and one that I wish I had thought of myself. Professor Risinger also reaches a position analogous to the conclusion of our previous work that the judge must, in fact, be educated about the basis of the expert’s opinion, and conclude that it is rational and warranted, before admitting it at trial. Again, precisely so. I would add to it only one further step. If the trial judge is rationally convinced that an expert is testifying on the basis of reliable expertise, then the trial judge has been sufficiently educated

¹⁹ Risinger, *Functional Taxonomy*, *supra* note 15.

²⁰ Ronald J. Allen & Joseph S. Miller, *The Common Law Theory of Experts: Deference or Education?*, 87 NW. U. L. REV. 1131 (1993); *see also* Ronald J. Allen, *Expertise and the Daubert Decision*, 84 J. CRIM. L. & CRIMINOLOGY 1157 (1994).

in the discipline to follow and appraise the progression of the expert's thought. If such education is possible, then circular "general acceptance" reasoning standing alone is not necessary and should be insufficient, as it is the reason for general acceptance that matters. General acceptance may be a useful confirmatory signal, but little more than that.

Combining Professor Risinger's insight with our previous work on the education-deference divide leads to an unexpected implication, however. If the trial judge must be educated about the underlying basis of an expert's opinion, and can follow the reasoning process of the expert, then whatever is presented to the trial judge can be presented to the jury if there is one. Thus, there is no need to permit expert opinion testimony devoid of the underlying basis that permits the opinion to be rationally processed and analyzed by the fact finder.²¹ Whether a jury understands is a different matter, but it is hardly a serious argument for not providing a jury the basis of an expert's testimony that possibly the jury will not understand it. Quite the contrary, such a risk should inform what the party must present to the fact finder.²²

There is, then, a general rule that emerges from all this, which is that parties must educate trial judge and fact finder about the relevant matters, just as they must with respect to everything else at trial, and in terms processable by judge and juror. The specifics of this will vary from discipline to discipline, whether practical or academic, but in all instances the same question should be asked: Has the proponent of the evidence explained it sufficiently so that it can be understood and processed rationally?

Should we hold open the possibility that there is some experiential expertise that may defy easy articulation in the terms I am proposing here? Chicken sexers, for example, who apparently can only learn their trade through trial and error and cannot articulate the basis of their decisions?²³ Still, the results of chicken sexers are verifiable, and thus the reliability of chicken sexers can be tested. Similarly, individuals testifying from other forms of experience will rarely if ever be unique and their testimony can be systematically compared with opposing views and the like. The answer to whether there is any form of evidence not subject to this

²¹ Even though the Federal Rules of Evidence clearly allow such. See Allen & Miller, *supra* note 20.

²² If the fact finder cannot be educated about a matter, it is not something that ought to be decided by judicial process precisely to the extent accurate adjudication is the goal.

²³ See generally R.D. MARTIN, *THE SPECIALIST CHICK SEXER* (1994).

analysis will have to emerge over time, but my present view is that a person who cannot explain the basis of testimony in an accessible fashion or explain how it can be verified ought not be allowed to testify. This will increase, in some instances remarkably, the difficulty of securing the admission of some evidence, but allowing testimony without such a foundation changes the nature of trials from rational deliberation on the evidence to irrational deference to unjustified opinions. Modern fact finders are sufficiently enlightened, and modern courts have adequate tools, to make such deference a thing of the past and by doing so advance trials as rational, deliberate events.

Interestingly, the answer to the second part of this inquiry may resuscitate the global/local distinction, but with a twist. When I say that it is necessary to establish the “global” issue of reliability, I am merely saying that virtually all trial testimony will be embedded in or a part of some larger body of knowledge, and that the reliability of the testimony will depend in part on the reliability of the inferentially prior propositions or methodologies involved.²⁴ Still, almost surely no trial testimony will depend in any direct or critical sense on all propositions or methods associated with a particular body of knowledge, and there is little justification for expending trial related resources to explain to judges and jurors largely irrelevant aspects of some body of knowledge. In this sense, Professors Risinger and Moreno are correct again that the Court has directed the trial process away from a global inquiry into the epistemology of various fields of knowledge. Still, just as no trial testimony is likely to invoke all epistemological aspects of a discipline, so too is it unlikely that trial testimony would ever fail to rely on some aspects of a field’s epistemology. The task at trial thus can be limited to establishing the validity of whatever is necessary for the testimony.

What will be necessary for the testimony will in turn be idiosyncratic to the case. Certain foundational propositions of various fields will need to be addressed, and why they are accepted as true established. Some methodological issues will need to be addressed from time to time, basic statistical methods for example. The precise contours of the necessary background will depend on the precise testimony directly relevant to the case that is being proffered. In this different sense, *Kumho Tire* did direct a “local” inquiry, but not one that foregoes the foundations of the bodies of knowledge

²⁴ I suspect that this is true of all testimony, actually. Eyewitness testimony, for example, depends upon assumptions about perception, memory, and narrative ability.

relevant to trials. Rather, it directs presentation of the necessary components of that foundation to the trial judge so that the trial testimony can be understood and processed rationally.²⁵

Perhaps this concludes things rather with a whimper than a bang, for it amounts to saying that trial judges must do whatever needs to be done in order to ensure that reliable evidence is presented at trial, but what “needs to be done” cannot be further specified. I see no alternative to wimping-out on this one, though. While I laud Professor Risinger’s preliminary efforts to articulate a taxonomy of expert testimony, I do not think he or anyone else will succeed in reducing the field to a set of rules containing necessary and sufficient conditions. The field of potential expertise is vast—which is precisely why I received this assignment to try to bring order to it—but sprawling and unpredictable phenomena cannot easily be regulated acceptably by rules.²⁶ The rules invariably turn out to be too broad or too narrow. In such instances, there is no substitute for substantive engagement with the relevant questions—learning enough about the field to make reasonable judgments, in other words. In the best Edisonian tradition, more than inspiration, the field of expert testimony calls for good old fashioned perspiration.²⁷

The substantive engagement with fields will surely be assisted by instruction in the forms of knowledge and methodological approaches, to be sure, and sometimes it will amount to little more than doing individualized validity testing of proffered witnesses.²⁸ There is no good reason to attempt to specify in advance what this might entail, as the great diversity as to what uncontroversially counts as “science” attests. The criteria for validation in particle physics, astronomy, and genetics differ markedly, and bear only a fortuitous or casual relationship to the *Daubert* criteria, yet all are sciences. Experiential expertise, beside the point that it should be replicable or testable in some fashion, will sprawl even more widely over the

²⁵ I suspect that this is what all the judges who are now saying that the task is not to judge expert testimony in the “abstract” have in mind. See, e.g., Moreno, *supra* note 2, at 1057 (noting the trial judge’s admonition, in *National Football League Properties, Inc. v. Prostyle, Inc.*, 57 F. Supp. 2d 665, 672 (E.D. Wis. 1999), that non-case-specific evidence, by itself, does not sufficiently assist jurors to warrant admission).

²⁶ For discussions of this phenomenon, see Allen & Rosenberg, *supra* note 11. See also Ronald J. Allen & Ross M. Rosenberg, *The Fourth Amendment and the Limits of Theory: Local Versus General Theoretical Knowledge*, 72 ST. JOHN’S L. REV. 1149 (1998).

²⁷ See generally Michael J. Saks, *The Aftermath of Daubert: An Evolving Jurisprudence of Expert Evidence*, 40 JURIMETRICS J. 229, 239 (2000).

²⁸ See Risinger, *Functional Taxonomy*, *supra* note 15, at 522, 525. If the question were whether a bloodhound had lost its nose, no one would object to a test, I suspect. Experiential experts are quite similar.

horizon (which is the whole point of this inquiry, of course). The *Daubert* criteria are useful starting points, but that is all, and they are being supplemented by the lower courts as the common-law process works itself out, both with normal science and in other disciplines as well. Here the adversary system has an important role to play. It is not the judge's obligation to engage in his or her own free-standing romp through the foundations of disciplines but instead to adhere largely to what the parties produce. The proffering party must provide enough to establish the foundations of expert testimony, in the light of any contrary evidence produced by the opponent.²⁹

One last point. There is considerable consternation in some areas of the academy today over whether the trial courts are holding expert testimony to too high a hurdle for admission, and largely making sufficiency holdings in the guise of admissibility holdings. Unless the educational function is extended beyond the trial judges to the juries, this is inevitable. If expert evidence is both incomprehensible to jurors and insufficient to justify a verdict, it cannot rationally inform a jury's deliberations, for deference to it would be by definition irrational even if it resulted in an accurate outcome.³⁰ In such cases, submission of the evidence is pointless, for a verdict based on it would have to be rejected by the trial court. Or so it is likely to appear to trial courts. This means that the incremental educational function of interesting but not terribly well-validated studies will be unobtainable at trial, a process possibly

²⁹ This is why Professor Moreno's concern may be misplaced that a "global" appraisal of fields "seems to distort the admissibility decision by forcing the judge to focus on a potentially infinite amount of evidence that is probably irrelevant to the dispute at hand." Moreno, *supra* note 2, at 1053.

There is another concern about the adversary system—whether the demands of the Supreme Court cases will result in litigation-generated funding of research to create peer reviewed articles that reach the proper conclusion, and so on. The Ninth Circuit in the *Daubert* remand opined that litigation-generated evidence should be viewed skeptically. See *Daubert v. Merrell Dow Pharm., Inc.* 43 F.3d 1311, 1317 (9th Cir. 1995). For a general review of the problem, equally skeptical, see William L. Anderson et al., *Daubert's Backwash: Litigation-Generated Science*, 34 U. MICH. J.L. REFORM 619 (2001).

³⁰ Consider, for example, Professor Moreno's argument that *Daubert's* underlying rationale is a sound one . . . [if] . . . the trial judge is more knowledgeable in assessing complex scientific testimony than is the average lay juror, and . . . each judge brings to the specific task of gatekeeping a general attitude or philosophy concerning the level of scrutiny appropriate for scientific gatekeepers.

Moreno, *supra* note 2, at 1042 (quoting Joseph T. Walsh, *Keeping the Gate: The Evolving Role of the Judiciary in Admitting Scientific Evidence*, 83 JUDICATURE 140, 143 (1999)). Even if these conditions are true, if the jury does not understand the evidence, its effect can be entirely irrational. There is no necessary or even obvious relationship between judicial gatekeeping and rational outcomes without education.

evident in the trial (and appellate) judges' decisions.³¹ The proponents of looser standards of admissibility have failed to see, I think, that the solution to this problem is to embrace education with a vengeance. If the mildly supportive data of, say, the effects of parolodel, can be understood, the basis for objecting to admission is removed, and whatever incremental inferential effect the data may have can occur. Of course, it is a different matter if the reason for rejecting an educational approach is that a truly educated person would see that what is being offered is junk. If that is the case, however, the evidence should not be admitted if the desideratum is accurate outcomes arrived at rationally and deliberately. If the goal is something else, like income redistribution, then different implications flow.

³¹ Bendictin and parolodel are good examples, perhaps.