

An Embarrassing Episode in the History of the Law of Evidence

*John H. Mansfield**

There may be value in attempting simply to give an account of the events that have brought us to the present state of affairs regarding the admissibility of expert testimony, a state of affairs that may fairly be described as a conceptual muddle containing within it a threat to liberty and popular participation in government. Such an account may force out of concealment mistakes that have been made and instill the will to remedy them, or at least to limit their damage.

The first task is to characterize the law that obtained before *Daubert*¹ regarding the admissibility of what for convenience we may refer to as expert testimony. It seems permissible to say, if we leave aside the complication created by *Frye*,² that expert evidence was admissible if relevant, meaning by relevant that it would justify a trier of fact in altering probabilities on a disputed issue in the light of background beliefs that could reasonably be imputed to the trier of fact—in the case of a jury, beliefs held by a substantial proportion of the population. This assumes that the evidence did not pose a significant risk of any of the undesirable effects we now find catalogued in Rule 403.³ Concededly the notion that an expert must be qualified provided an opening for a more serious limitation on admissibility,⁴ but in practice this requirement could easily be satisfied, usually by the mere recital of formal credentials. Certainly an opinion that an expert might express was not required to have any particular probative value.⁵

Decisions regarding the admissibility of expert testimony were focused not on the probative value of the evidence, nor on whether the expert was a real expert in the sense that he was providing correct

* John H. Watson, Jr. Professor of Law, Harvard Law School.

¹ *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993).

² *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923).

³ FED. R. EVID. 403 [hereinafter Rule 403 or 403].

⁴ See CHARLES T. MCCORMICK, *HANDBOOK OF THE LAW OF EVIDENCE* 28-29 (1954).

⁵ See *id.* at 363 (“Any relevant conclusions which are supported by a qualified expert witness should be received unless there are other reasons for exclusion.”).

information, but on whether the jury should be informed about the matter to which the witness proposed to testify through the formal process of evidence introduced at trial, or through the informal process of jury notice, the jurors simply taking into account what they already knew from their own experience. Thus if the question was whether a witness who described himself as an “accidentologist” should be allowed to give an opinion about the point of impact between two vehicles, the question was not whether his opinion was correct, but whether the information he would provide was not widely known, and so properly should be presented in open court and subjected to adversary testing.⁶

In addition to concern with the allocation of information between the formal and the informal processes, pre-*Daubert* decisions addressed the question of whether a witness should be allowed to testify using broad characterizations, drawing inferences, and expressing conclusions, or be confined to specifics, a question we associate with the Opinion Rule now embodied in Rule 701.⁷ Discussion of this question assumed that the witness’s information properly was channeled through the formal process of presenting evidence at trial, the only question being the form it should take. In most situations involving what is loosely referred to as expert testimony, the information that it was desired to be provided the trier of fact could not be effectively communicated unless the witness used generalizations, inferences, opinions and so forth. In the case of what we may call for the moment nonexpert witnesses, on the other hand, it was often possible to insist that the witness be specific without there being any risk of loss of relevant evidence. The release from the constraints of the opinion rule of witnesses who had complex information to communicate did not imply, however, that these witnesses’ testimony was required to be more than relevant, or that because they might be loosely characterized as experts that they had to be real experts in the sense of oracles of undoubted truth.

In all of this pre-*Daubert* law, there was no suggestion that evidence, to be admissible, had to be capable of being understood in a particular way by jurors, or that jurors had to be able to follow the reasoning of the expert. All that was required was that the evidence be relevant in the sense referred to above. There was no suggestion that evidence, in order to be allowed before the jury, had to carry with it a capacity for educating them to a certain level of

⁶ See *Een v. Consol. Freightways*, 120 F. Supp. 289 (D.N.D. 1954), *aff’d*, 220 F.2d 82 (8th Cir. 1955).

⁷ FED. R. EVID. 701 [hereinafter Rule 701].

understanding, either that attained by the witness himself or the level that might be attained by an intelligent, generally informed judge. The decision whether to educate was left to the parties: in a particular case, if a party did not provide material that would enable the jurors to understand, the verdict might go against him. What capacity for education the jurors would have would be determined by the basic requirements for jury service regarding intelligence and background information, but whether this capacity would be utilized by the evidence actually introduced was not something policed by the rules of admissibility.

Exclusion on the grounds of prejudice, confusion of issues, waste of time and so forth—the evils now catalogued in Rule 403—did not in any way contradict what has just been said about the easy admissibility of expert testimony pre-*Daubert*. None of the 403 evils, a risk of which justified exclusion unless outweighed by probative value, could be posited of expert testimony as such: disregard of the substantive law; disregard of the burden of proof; giving way to emotion; confusion of issues or misleading the jury, in the sense of not being clear about the different questions under the substantive law and to which of them evidence might be relevant; waste of time because the evidence replicated evidence already presented; or cumulativeness. If there was a substantial risk of the occurrence of one or more of these evils, then the probative value of the evidence offered had to be considered, but not if all that could be said of the evidence was that it was expert evidence.

It is in *Frye* that we may spy the roots of our present troubles. They are to be found not in the well-known uncertainties as to what is the non-official body that must accept the evidence, in what sense must the body accept it, and why should the law defer to the opinion of a non-official group regarding the probative value of evidence, but in the erection of the idea of “scientific evidence” as a legal category having consequences for admissibility. But the damage inflicted by *Frye* was limited, at least in its immediate consequences. In the first place, *Frye* appeared to be restricted to “novel” scientific evidence, which might have exempted evidence of a sort that had been around for some time, even though of slight probative value. Furthermore, there was no implication in *Frye* that its requirement might spread to the whole area of expert testimony. The *Frye* rule, even as narrowly conceived and applied to novel scientific evidence, was not universally accepted, and in the years preceding *Daubert*, there were signs of resistance to it.⁸ It is one of the ironies of our story that this

⁸ See Paul C. Giannelli, *The Admissibility of Novel Scientific Evidence: Frye v. United*

resistance to *Frye* led to a regime that has turned out to be much more restrictive and extensive in its application than *Frye* itself.

Next came the enactment of Rule 702.⁹ There was nothing in the text or legislative history of 702 that would justify finding an intention to erect a barrier to the admissibility of expert testimony higher than the one that already existed. Of course, there was the question of the effect of 702 on cases that fell within the ambit of *Frye*—“novel scientific evidence”—but if account is taken of the resistance that had been growing to *Frye*, a defensible interpretation of 702 could have been that it abolished *Frye* and left the law of admissibility of expert testimony much as McCormick suggested it was and ought to be.¹⁰ In *Daubert*, the Court did indeed say that 702 abolished *Frye*, but then announced another rule governing the admissibility of expert testimony, the consequences of which we are now experiencing. In my own view, Rule 702 should have been read not to impose this new requirement, but simply to have affirmed the distinction, already referred to, between information that should come through the formal process and information that should come through the informal process of jury notice. The phrase “qualified as an expert,” which does appear in 702, should have been read to mean only that the witness had or claimed to have information that did not fall within the area of jury notice, not that this information must stand up to any particular test of reliability. The same is true of the language about “assisting” the trier to determine a fact in issue. This clause, as I see it, also is simply an affirmation of the distinction between what may come in at trial and the information jurors already have. This was made pretty clear by the Advisory Committee’s quotation, in its Note to Rule 702, of Professor Ladd’s article in which he stated:

There is no more certain test for determining when experts may be used than the common sense inquiry whether the untrained layman would be qualified to determine intelligently and to the best possible degree the particular issue without enlightenment from those having a specialized understanding of the subject involved in the dispute.¹¹

In this statement, Professor Ladd emphasized not the correctness of the expert’s testimony, but the limits of the jurors’ knowledge.

States, *a Half-Century Later*, 80 COLUM. L. REV. 1197 (1980).

⁹ FED. R. EVID. 702 [hereinafter Rule 702 or 702].

¹⁰ See MCCORMICK, *supra* note 4 and accompanying text.

¹¹ Mason Ladd, *Expert Testimony*, 5 VAND. L. REV. 414, 418 (1952).

The Court in *Daubert* seized upon the word “science” in Rule 702 and based its holding upon what it thought to be a correct reading of that term. In this, I believe, the Court made a fundamental error, treating the case before it as one presenting a narrow question of textual analysis, rather than seeing it as raising for discussion the broad purposes of the law of Evidence in the light of its history and the value of jury trial.¹² There is no reason to think that the word “science” was put into 702 other than as a convenient though vague reference to a subclass of cases within the broad class of cases involving specialized knowledge, specialized in the sense that it is not already possessed by a proportion of the population of substantial size. The way was paved for this mistake by *Frye*’s use of the category “scientific evidence,” and its attaching specific consequences to that category in regard to admissibility. In *Daubert*, the Supreme Court adopted and confirmed the legal category “science,” and then went on to attach different consequences than had *Frye*. There was uncertainty following the *Daubert* decision as to whether it had made it more or less difficult for expert testimony to gain admission, a harbinger of the confusion that now surrounds the whole subject of the admissibility of expert testimony.

Seizing upon the word “scientific” in 702, as just said, the Court in *Daubert* then went on to determine that to be “science,” evidence had to be “scientifically valid” or “good science,” and that this sort of science could only be the result of the “scientific method.” The truth is that among people who consider themselves in some sense scientists, there is no clear understanding or agreement about what is meant by “science,” “good science” or “the scientific method.” Furthermore scientists who might be willing to give an account of how they go about their work, would probably disclaim responsibility for attaching any great significance to their account beyond its justifying the decisions they make regarding further research. By contrast, there are people sometimes referred to as philosophers of science. These people do talk about the scientific method and scientific validity. Some of them are cited in the *Daubert* opinion—Karl Popper most notably.¹³ It is not at all certain, however, that the Court understood these writers correctly, or even if it did, why legal consequences should be attached to their ideas. Even if the Court is correct in *Daubert* about what is science, what is the scientific method,

¹² See JAMES BRADLEY THAYER, A PRELIMINARY TREATISE ON EVIDENCE AT THE COMMON LAW 2 (1898) (referring to “the deep political significance of the jury and its relation to what is most valued in the national history and traditions of the English race”).

¹³ *Daubert*, 509 U.S. at 593.

and what is scientific validity, the chief flaw in the Court's opinion is its failure to connect its analysis of these matters to any policy of the law of Evidence. This failure originates in its threshold mistake of treating the case as presenting a narrow problem in textual interpretation. If the result of *Daubert* is to require that scientific evidence, to be admissible, must be not merely relevant, but reliable—that is to say, have a certain probative value—*Daubert* gave no reason for this requirement other than that unless evidence has this probative value, it is not really science or scientifically valid.

What were the forces at work that led to the *Daubert* decision? In the first place, one must mention the powerful economic interests that saw themselves under threat from large jury awards arguably traceable to the admission of evidence of a causal connection between their products and injuries. Writers and lawyers in the service of these interests launched a campaign to attack the purveyors of this evidence. In particular they initiated a campaign of sloganeering, employing such labels as “junk science” or “faux science” or “bad science,”¹⁴ aimed at casting scorn on those who testified to opinions thought to warrant these labels. It is embarrassing to concede that this kind of sloganeering may have influenced the course of the law.

Another factor contributing to the *Daubert* decision was the desire of some judges to be associated with science, if not as full insiders, at least as knowledgeable associate members. Their desire was to connect themselves with the most prestigious form of knowledge in our contemporary world: scientific knowledge. Even if one does not practice science or the philosophy of science, to know what scientists do, and to be seen to know it, enhances self-esteem and status in our society. Even when this knowledge is of a fairly primitive sort, as it usually is for judges, lawyers, law clerks, and law professors, generally being based on college courses and popular books on science, its possession places a person above the common run. But here we can truly say, as the old adage has it, that a little knowledge is a dangerous thing. In this case, it led the Court away from the sufficiently difficult job of discerning and implementing the purposes of the law of Evidence, into an attempt to shine with the reflected glory of science, in the light from a star only half understood, and which in any case had its own purposes quite unrelated to law.

¹⁴ Consider Professor Allen's continued use of the term “junk science” in his contribution to this Symposium. See generally Ronald J. Allen, *Expertise and the Supreme Court: What is the Problem?*, 34 SETON HALL L. REV. 1 (2003).

Not to be left out of account as a factor contributing to *Daubert* is the anger and scorn that elite scientists feel toward what they consider bad science. They persuade themselves, or have been persuaded by interested lawyers, that persons who represent themselves to be scientists and claim to know something about which they, the elite scientists, know much more, in being allowed to testify in courts of law are damaging the reputation of science and undermining its mission. They are persuaded that if “junk science” is allowed in courts, this somehow will adversely affect the standards for academic appointments in science, government funding of scientific research, and other important matters. There is no reason to think there is any connection whatever between these matters and the standards for the admission of evidence in courts, but elite scientists, who think little about the purposes of law, believe there is, and their disapproval of courts’ listening to inferior scientists has been skillfully communicated to judges, who, as already stated, aspire themselves to be approved by elite scientists.

Finally, also to be taken into account as a factor contributing to *Daubert* is an ideology, far from decisively eliminated in our political debates, which cannot see the sense in entrusting to twelve persons picked at random from the general population important and difficult questions of fact. Reservations coming from this perfectly reasonable political philosophy find place in the bosoms of some judges. They reveal themselves in the *Daubert* opinion’s conflicting passages that on the one hand praise the ability of the jury to answer difficult questions and on the other hand question it.¹⁵ But in this debate, the Constitution has taken one side.

As already indicated, there does not exist outside the law any settled meaning for the terms “science” or the “scientific method.” If there were such a settled meaning, it still would have to be explained how the purposes of the law will be achieved by carrying that meaning over into a legal context and attaching to it the particular consequence of admissibility. What is the precise shape of the legal idea “science” that *Daubert* created? We do not know. The Court says in its opinion that that case was presented to it as one involving scientific evidence, and that since it was so presented, the evidence must satisfy certain requirements.¹⁶ It did not need to decide, the Court stated, whether these requirements or others would apply in the case of nonscientific evidence. Of course, in avoiding telling us what is scientific evidence, the Court failed to root its requirement

¹⁵ *Daubert*, 509 U.S. at 595-96.

¹⁶ *Id.* at 590 n.8.

that scientific evidence be more than relevant in any understanding of the phenomenon of “science” that gave rise to the requirement in the first place.

Daubert tells us that if evidence is scientific, it must have a certain probative value to be admissible. This is simply because it is scientific or is claimed to be. This is what all the talk about “scientific validity” and reliability comes down to—the requirement of a certain probative value. The idea is no different from that contained in 403. Under 403, however, the reason for requiring a certain probative value before evidence is admitted is the risk of the occurrence of the specific evils already mentioned: the jury will ignore the substantive law, the jury will disregard the burden of proof, the jury will be swept away by emotion, and so forth. These evils can be seen as such and taken into account through the exclusion of evidence without attacking the very reason for having jury trial: that the verdict may reflect beliefs about the world held by ordinary people and the working of average intelligences. To require that “scientific evidence” be excluded unless it has a certain probative value simply because it is scientific, does not rest upon apprehension of any of the evils listed in 403, but directly attacks the fundamental reasons for jury trial.

Daubert based its requirement that the evidence there involved be reliable on the fact that it was scientific, but did not explain the distinction between science and nonscience, nor draw from such a distinction reasons for a particular requirement in the case of scientific evidence. In *Kumho*,¹⁷ the distinction between the scientific and the nonscientific was found to be unmaintainable and disappeared, and with its disappearance there also disappeared the reason given in *Daubert* for a requirement of reliability. In these circumstances, the alternatives were to reconsider *Daubert* and see whether it was possible to come up with a rationale for requiring reliability other than the one based upon the mere fact that evidence was scientific, and if this effort failed, to abandon the result in *Daubert* and allow evidence in simply if relevant, or to extend the requirement of *Daubert* to all expert testimony. The latter course was taken and it was taken, furthermore, without justification offered. The result in *Daubert* was assumed to justify imposing the reliability requirement on evidence of the sort presented in *Kumho*. This is the embarrassing episode referred to in the title to this article. Such a finesse probably would not have been possible if *Kumho* had come before *Daubert*.

¹⁷ *Kumho Tire Co. v. Carmichael*, 526 U.S. 137 (1999).

If *Kumho* is accepted, then all expert testimony must have a certain probative value to be admitted: relevance is not enough. The collapse of the distinction between science and nonscience has led to this extension to all expertness. But the distinction between expert and nonexpert evidence itself is vulnerable and subject to collapse, and if this distinction goes and the Court responds in the same way it did to the collapse of the science/nonscience distinction, then what we face is the extension of a reliability requirement to all evidence. Some commentators may attempt to ward off this outcome by invoking a distinction between fact and opinion witnesses. They will say that *Kumho*, of course, should not be extended to “fact witnesses.” But all witnesses are fact witnesses in that they seek to inform the jury about the facts of the world, even if in some cases they are allowed to do so by the use of opinions and inferences.

The distinction earlier referred to between information that may come through the informal process of jury notice—possibly because the information is possessed by a group of substantial size in the community—and information that may be introduced into evidence at trial, a distinction implicit in the idea of relevance in Rule 401,¹⁸ policed by Rule 701, and affirmed in Rule 702, and which indeed is fundamental in our procedure, has nothing to do with any distinction between expert and nonexpert evidence. In the argument over whether there is an intelligible distinction between expert and nonexpert evidence, all the evidence spoken of is assumed to come properly through the formal process.

Most people agree that if the expert/nonexpert distinction breaks down with the consequence that all evidence to be admissible must have a certain probative value, there will be a grave impairment of jury trial. This is especially so if probative value is to be judged in the light of background beliefs other than those that may be ascribed to reasonable jurors. In *Daubert*, the Court indirectly suggested that an exclusionary rule such as the hearsay rule and the requirement that witnesses be competent support its suggestion that imposing a requirement of reliability on the admission of evidence is not unusual in the law of Evidence.¹⁹ But in the case of the familiar exclusionary rules, as in the case of Rule 403, a requirement of a certain probative value or even a flat rule of exclusion is a response to a particular danger, not a direct challenge to the main point of jury trial.

Propelling some along this path step by step to the final conclusion that all evidence must be reliable to be admissible, not

¹⁸ FED. R. EVID. 401.

¹⁹ *Daubert*, 509 U.S. at 590 n.9.

stopping to ask whether the first step was a mistake, is the underlying belief, earlier referred to, that poorly educated, average citizens do not contribute much to fair adjudication, but instead return verdicts that often are inaccurate, and that whatever political advantages may accrue from jury trials, they do not justify the continuance of this state of affairs. As has been frequently observed, statements that jurors render inaccurate verdicts are not supported by much empirical evidence.²⁰ In the first place, to state that a verdict is incorrect implies a source of undoubted knowledge of the truth, when often there is no such unquestionable source. Furthermore, even if it is the case, as it surely is, that mistaken verdicts have been returned, there is no warrant for believing that another tribunal would not have made the same mistakes: a judge is as likely to be misled by a claimed eyewitness as a jury.

Sometimes an interest in displacing the jury is attempted to be masked by a suggestion that all that is sought by an admissibility requirement of reliability is to aid the jury in discharging its function in the best possible manner. Assistance takes the shape of excluding evidence concededly relevant unless it comes in a form that permits the jury to be properly educated, so that its verdict will be the fruit of rational analysis. If the evidence must be capable of bringing the jury to a certain level of understanding, to what level? Surely it cannot be suggested that they must be brought to the same level as the expert witness himself. It seems clear—indeed Professor Allen concedes as much in his contribution to the present symposium—that the insistence on the educational power of evidence is in the service of producing more accurate verdicts: “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?”²¹ Thus, although *Kumho*’s requirement that expert evidence be reliable and the insistence that evidence have a certain educational power may be distinguishable on the surface, beneath they derive from the same conviction that jury verdicts are not as accurate as other forms of adjudication and that there are no good policy reasons why an inferior form of fact-finding should be accepted.

Defects in our procedural system that produce inaccurate judgments are, of course, a matter of serious concern. It should not be assumed, however, that inaccuracies result from the use of juries, rather than being attributable to some other aspect of the system.

²⁰ See John H. Mansfield, *Scientific Evidence Under Daubert*, 28 ST. MARY’S L.J. 1, 23 (1996).

²¹ Allen, *supra* note 14, at 7.

Thus, the proper functioning of the adversarial system may be impaired in certain situations—in many criminal prosecutions, for example—by an inequality of resources or a difference in lawyers' abilities. It may be possible directly to address these inequalities. If this is not possible, in certain situations an exclusionary rule that addresses a specific malfunctioning of the adversary system may be appropriate. The special exclusionary rules relating to lineup evidence are an example. But such rules operate to protect one side against the superior power of the other, and are not across-the-board exclusionary rules of the sort established by *Daubert-Kumho*, where the rule excludes expert evidence unless it is shown to have a certain probative value.

It is difficult to predict the future. It is impossible to imagine that the Court will dismantle the *Daubert-Kumho* regime and return to the regime of easy admissibility that existed before *Daubert*, at least when “novel scientific evidence” was not involved. There seems little possibility of legislative intervention or of any remedial proposal coming from the Advisory Committee, especially since it has only recently sponsored an amendment of Rule 702 that brings it into express accord with *Daubert*.

As efforts by lower courts to apply *Daubert* continue, if confusion about its meaning persists and conflicts among the circuits develop, an appreciation of the need for some kind of adjustment may grow. Confusion and conflict may increase as a result of the extension of the reliability requirement to all expert evidence. Conflict among the circuits will develop because some courts of appeal, in an effort to give some structure and semblance of law to rulings on admissibility, will attempt to spell out the “factors” that a trial judge must consider in ruling on admissibility, and perhaps even pursue the hopeless effort to distinguish expert method from expert conclusion, applying the *Daubert-Kumho* requirement only to the former. Other courts will routinely uphold the exercise of discretion by the trial court, whichever way it went on the question of reliability. In those circuits in which the latter approach is taken, a high degree of inconsistency among trial court rulings on the admissibility of expert evidence will become apparent.

Inconsistency in results is, of course, a state of affairs we frequently accept for practical reasons and because of competing values. If the same evidence had been put before a different trier of fact, whether judge or jury, the result might well have been different. Inconsistency in rulings on the admissibility of evidence, the

supposed application of law by the judge, is harder to accept.²² Nevertheless we do accept it to a degree in the case of rulings under Rule 403. The *Frye* rule probably did function to give a certain measure of consistency and predictability to rulings on the admissibility of the sort of evidence it addressed—novel scientific evidence. The pre-*Daubert* approach to other expert evidence also produced a considerable consistency in rulings on admissibility, since most proffered expert testimony was admitted, at least if the witness was deemed qualified. In any case, inconsistency among rulings on the admissibility of expert evidence is not likely to produce remedial action unless it is accompanied by an increased realization of the seriousness of the inroad that *Daubert-Kumho* has made on the right to jury trial.

²² Inconsistency in the substantive standards for assessing expert testimony is troublesome: it means that similarly situated litigants are treated differently based on where they litigate, and it promotes forum shopping. Moreover, apparently arbitrary differences among courts evaluating similar testimony weaken the justification for removing reliability determinations from the jury in the first place.

Note, *Reliable Evaluation of Expert Testimony*, 116 HARV. L. REV. 2142, 2147 (2003) (footnote omitted).