Daubert: A (California) Trial Judge Dissents

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INTRODUCTION

In Daubert v. Merrell Dow Pharmaceuticals, Inc., 1 the United States Supreme Court held that the rule of Frye v. United States 2 — the general acceptance rule 3 — did not survive adoption of the Federal Rules of Evidence. 4

It seems to me the Frye rule, modified and limited as it has been by the California Supreme Court in People v. McDonald 5 and People v. Stoll, 6 is a proper rule that serves an important and legitimate purpose. It is a proper rule, that is, when it is limited to evidence that purports to have a basis in one of the hard sciences, as opposed to that which depends on a social science. 7 The Court in Daubert could and should have endorsed the Frye/Stoll rule for the federal courts. This would have been a good result from a public policy standpoint, and it would have been justifiable under the rules of statutory interpretation.

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2 293 F. 1013 (D.C. Cir. 1923).
3 See id. at 1014.
4 See Daubert, 509 U.S. at 587.
6 783 P.2d 698, 710-11 (Cal. 1989).
7 See id. (limiting Kelly-Frye to expert testimony based on new scientific technique, process, or theory and to expert testimony describing data obtained from unproven technique or procedure); David McCord, Syndromes, Profiles, and Other Mental Esotica: A New Approach to Admissibility of Nontraditional Psychological Evidence in Criminal Cases, 66 OR. L. REV. 19, 77, 85 (1987) (asserting that Frye test should not be applied to "soft" psychological evidence).
I. FRYE AS A CONCRETE APPLICATION OF RULE 403'S BALANCING PRINCIPLE

The balancing principle of Rule 403 of the Federal Rules of Evidence\(^8\) requires exclusion of relevant evidence when the harm likely to result from its admission — the danger, for example, that its admission will confuse or mislead the jury or cause undue delay — substantially outweighs its probative value.\(^9\) The rules following Rule 403 (those excluding character evidence to prove conduct, evidence of subsequent remedial measures, etc.) are "concrete applications evolved for particular situations" of Rule 403's balancing principle.\(^10\)

The federal appellate courts have evolved other rules as additional concrete applications of Rule 403's balancing principle for particular situations.\(^11\) The Daubert court acknowledged that while in theory "no common law of evidence remains" after adoption of the Federal Rules, in reality, the body of common law knowledge continues to exist as a source of guidance.\(^12\) In other words, the common law can still aid in the application of the Federal Rules.\(^13\)

The Frye rule is, as I understand it, nothing more than a concrete application of Rule 403's balancing principle evolved by the federal appellate courts for a particular and particularly problematic situation. The Frye rule merely recognizes that, in some circumstances, Rule 403 requires that courts exclude questionable evidence that purports to have a basis in one of the hard sciences, unless the technique, process, or theory on which it is based is shown to have been generally accepted in the relevant scientific community.\(^14\) Unless such a showing is made, the

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\(^8\) See Fed. R. Evid. 403 (requiring court to balance evidence's probative value with prejudicial effect).

\(^9\) See id.

\(^10\) See Advisory Committee Note, Fed. R. Evid. 403.


\(^13\) Id.

\(^14\) See Frye v. United States, 293 F. 1013, 1014 (D.C. Cir. 1923) (holding that courts may admit expert testimony based on generally accepted scientific principle or discovery).
court will have to devote undue time to presentation and evaluation of foundational and counter-foundational evidence concerning the conflicting views of the interested scientists. Additionally, without a showing of general acceptance, there will be an unacceptable danger that the jury will be blindsided, overawed, or misled by the evidence. The Frye rule is not a broad common law exclusionary rule of the kind proscribed in United States v. Abel\(^5\) and again in Daubert. It is instead a proper instance of the common law aiding in the application of Rule 403.\(^{16}\)

Applicability of the special rule for admissibility of controversial scientific evidence ought, however, to be "determined by reference to its narrow 'common sense purpose,'" which is to protect the jury from ostensibly scientific evidence that conveys a "misleading aura of certainty,"\(^{17}\) and may therefore confuse and mislead the jury. The special rule should be limited to techniques or procedures which appear "to provide some definitive truth which the expert need only accurately recognize and relay to the jury."\(^{18}\) Unless the expert opinion testimony contains "some special feature which effectively blindsides the jury," it should not be subject to any special requirements beyond the requirements that the witness be qualified, the subject be beyond common experience, and the testimony have a logical tendency to prove a material fact.\(^{19}\) So limited, the special rule simply requires the trial court to properly exercise its discretion under Rule 403.\(^{20}\)

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\(^5\) *See* Abel, 469 U.S. at 51-52 (concluding that bias may be used to impeach witness in same manner as at common law).

\(^6\) *Daubert*, 509 U.S. at 588.

\(^7\) People v. Stoll, 785 P.2d 698, 710 (Cal. 1989) (quoting People v. Kelly, 549 P.2d 1240, 1245 (Cal. 1976)).

\(^8\) *Id.*

\(^9\) *Id.*

\(^10\) I do not suggest that courts must admit evidence based on the social sciences without limitation. Such evidence must be excluded under Rule 401 when it has no basis in logic or experience. See Advisory Committee Note, FED. R. EVID. 401 (discussing concept of relevancy). In other words, when it has no "tendency in reason" to prove a material fact. UNIF. R. EVID. 1(2) (emphasis added) (act withdrawn 1921); See also CAL. EVID. CODE § 210 (West 1995) (using this test to determine relevancy). Nevertheless, courts must exclude social science evidence, even if relevant, when the harm likely to result from its admission substantially outweighs its probative value. FED. R. EVID. 403. Such evidence need not, however, be shown to have been generally accepted in a particular scientific community. On the other hand, evi-
II. DAUBERT'S SECOND “HOLDING”

The Court's second “holding” (it is truly dictum) in Daubert is more troubling. Having jettisoned the Frye rule, the Daubert Court went on to “determine the [correct] standard for admitting expert scientific evidence in federal trials.” The Court noted, correctly, that the mere fact that the Federal Rules of Evidence displaced the Frye test does not mean that the Rules themselves do not place special limits — beyond those applicable to evidence and to expert evidence generally — on the admissibility of purportedly scientific evidence. The Court identified the source of such limits and defined them. It articulated a new rule, the Daubert rule.

The Federal Rules expressly require a special showing of reliability as a condition precedent to the admissibility of expert opinion evidence only when the opinion is “based on otherwise inadmissible hearsay.” I find no broader requirement of special showing implied anywhere in the Federal Rules.

To me the plain, common sense meaning of Rule 702 is that it places no special limitations on scientific opinion evidence. Rule 702 requires nothing more than the witness be qualified and that the evidence is helpful to the trier of fact in the sense that it is relevant, and in the sense that it relates to a subject beyond common understanding and experience. Under this interpretation, “scientific knowledge” merely identifies one of the kinds of opinion evidence to which the general requirements of witness qualification and helpfulness apply.

\[\text{\footnotesize dence which does not qualify even as social science evidence, such as evidence based on junk science, or parascience, astrology, or palm-reading, has no basis in logic, experience, or reason and, therefore, must be excluded under Rule 401 on the ground that it is not relevant.}\]

\[\text{\footnotesize 11 See Daubert, 509 U.S. at 589.}\]

\[\text{\footnotesize 12 Id. at 582.}\]

\[\text{\footnotesize 13 Id. at 589.}\]

\[\text{\footnotesize 14 See id. at 589-92.}\]

\[\text{\footnotesize 25 See id. at 592-95.}\]

\[\text{\footnotesize 26 Fed. R. Evid. 702. Cf. Cal. Evid. Code § 801(b) (West 1995) (requiring basis of expert opinion to be reasonably relied upon by expert, unless otherwise precluded by law).}\]


\[\text{\footnotesize 1016 University of California, Davis [Vol. 30:1013}\]
The interpretation the Daubert Court embraced, that Rule 702 requires not only a qualified witness and helpfulness, but also that the opinion be based on scientific knowledge (knowledge that has been validated in the way that science validates),\textsuperscript{28} is not manifestly beyond the realm of plausibility. Under this interpretation, "scientific knowledge," as used in Rule 702, arguably is not merely an introductory phrase; it is an element of admissibility.

I believe, however, that the authors of Rule 702 probably intended no such thing. Often, the proof presented as "scientific" evidence has little to do with science.\textsuperscript{29} The fact is that courts generally apply the term "scientific evidence" to a broad spectrum of expert opinion testimony spanning "the sciences, the arts, and all kinds of skilled profession."\textsuperscript{30} The practice of using the term "scientific evidence" "for all types of opinion testimony, whether it is based on science, art, or taught skills" is a common one.\textsuperscript{31} I believe the authors of Rule 702 probably intended to use the term "scientific knowledge" in the generic sense in accordance with common usage.

Rule 702 is ambiguous at best. The Court, therefore, could have opted for this interpretation. I think it should have. I speak as a state court trial judge who has conducted a protracted Frye hearing\textsuperscript{32} in a notorious case on a controversial issue, the admissibility of evidence based on the DNA polymerase chain reaction (PCR) amplification technology in PCR's infancy.

III. DO WE NEED (OR WANT) JUDGES TO ACT AS GATEKEEPERS?

I acknowledge some skepticism about the competence of jurors to resolve scientific issues intelligently and accurately.\textsuperscript{33} However, judges have no greater ability than do jurors to resolve

\textsuperscript{28} See Daubert, 509 U.S. at 597 (holding that expert evidence may be admissible so long as it is reliable and relevant).

\textsuperscript{29} ANDRE A. MOENSSENS, SCIENTIFIC EVIDENCE IN CIVIL AND CRIMINAL CASES 1 (4th ed. 1995).

\textsuperscript{30} Id.

\textsuperscript{31} Id.

\textsuperscript{32} In California, Frye hearings are known as Kelly/Frye hearings.

such issues. "[C]ommentators have questioned the ability of trial judges, often wholly unschooled in scientific areas, to evaluate highly technical scientific material." 54 In my experience, the commentators' reservations are justified. A "large segment" of the trial bench "display[s] an appalling degree of scientific illiteracy." 55

There is another reason why judges are ill-suited to play a major role in protecting the gate against bad science. Lawyers and judges typically hold expert witnesses in some disdain. They believe expert witnesses are available for hire, coming to virtually any conclusion a party needs. 56 There is "a strain in American case law of distrust [of], if not hostility to, scientific authority." 57

The fact of the matter is that, in the great majority of cases, neither the judge nor the jury is competent to resolve arcane scientific issues on the merits. Nor do they. In the end, the judge or jury must either accept much of what the expert says on faith or reject it. When the parties dispute an expert issue at trial, it is unrealistic to expect non-experts to be able to judge the merits themselves. 58 Typically, the real issue is what the jury, or the judge, "believes the expert knows." 59 This is reality. It should cause no great consternation. We act on imperfect knowledge. We must. There are ways of intelligently taking a stand on complex issues that we cannot understand perfectly, or even well. If you have to decide whether to undergo the surgery, whether to take the job, whether to buy the house, how to vote on the complex ballot measure, you will do so. You will gather as much information as is reasonably possible, try to identify and interpret relevant clues (the nature and quality of the support for, and opposition to, the ballot measure, for example), and make the decision. This is not the way scientists operate. But it is the way judges and jurors operate. They use common sense.

Given the widespread judicial distrust of evidentiary expertise in general and of scientific expertise in particular, I would pre-

55 MOEINSSENS, supra note 29, at 10.
56 Id. at 11.
57 Gross, supra note 33, at 1113, 1123 n.36.
58 Id. at 1164.
59 Id. (emphasis added).
fer to have a jury of twelve make the call on the scientific issue. This is not to say that jurors themselves do not share the same prejudice. I know from having questioned prospective jurors on the subject during voir dire examination, and from having discussed it with sworn jurors after they have been excused, that jurors also are often distrustful of expert witnesses. But it seems to me juror skepticism is less pervasive and not as deep as judicial skepticism. It is not based, as the judicial strain often is, on turf jealousy. In any case, we are in the Information Age. My intuition is the jury, taken as a whole, is typically a great deal more knowledgeable about science than the judge. In any group of twelve jurors who have survived the selection process, there is likely to be at least one juror who has a far better understanding of the scientific issue than the judge.

IV. DAUBERT AND THE BILL KLEM FALLACY

The Daubert rule reminds me of the story about the baseball umpire Bill Klem. The pitcher hurled the ball plateward. It whizzed past the batter into the catcher’s glove. The umpire paused. The batter turned and asked, “What was it, Bill?” Mr. Klem replied, “Son, it ain’t nothing ‘til I call it.” Daubert has told us that a fact is not a fact until science tells us it is a fact. In reality, of course, a fact is a fact is a fact, whether science recognizes it or not.

In Christopherson v. Allied-Signal Corp., the decedent had been exposed to nickel and cadmium fumes in the workplace. He died of small cell cancer of the colon. Plaintiff’s expert witness, a clinician, testified that traditional scientific techniques for establishing medical causation are human epidemiological studies, live animal testing, and in vitro (test tube) research. He conceded there had been no formal scientific proof by any such technique of a causal link between exposure to nickel and cadmium fumes and small cell cancer of the colon. He pointed out, however, that science had established, by the traditional

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40 989 F.2d 1106 (5th Cir. 1991).
41 See id. at 1108.
42 See id.
43 See id. at 1115.
44 See id. at 1121.
techniques, a causal link between nickel and cadmium fumes and lung, prostate, and renal cancer. Small cell colon cancer looks, he said, like small cell lung, prostate, and renal cancer. He further testified that the biochemical reaction between small cell cancer and colon tissue is the same as the biochemical reaction between small cell cancer and tissue in the lung, prostate, or renal area. He concluded, therefore, that exposure to nickel and cadmium fumes can cause small cell cancer of the colon. The trial court excluded the expert's testimony. On appeal the plaintiff argued that though science may require certain kinds of proof, nothing in the law imposes such a strict test for admissibility. The appellate court rejected the argument, holding, in effect, that Rule 702 requires what science requires.

The question in Daubert was whether the defendant's anti-nausea drug could cause birth defects. The defendant's expert's affidavit stated that the accepted and exclusive scientific methodology for establishing such causation is human epidemiological research. Thirty published epidemiological research studies had found no causal relationship between Bendectin and birth defects. According to science, therefore, there was no such causal relationship. The testimony of the plaintiffs' experts in Daubert, however, was to the following effect: That is merely what science requires. Reliance on animal studies, chemical-structure analysis, and unpublished, unreviewed reanalysis of human epidemiological studies is equally valid. Having relied on such research, the expert believed that the defendant's anti-nausea drug could cause birth defects. The court of appeal rejected this approach, holding that the law requires what

45 See id.
46 See id. at 1124-25.
47 See id.
48 See id. at 1109.
49 See id. at 1114.
50 See id.
52 See id. at 583-84.
53 See id. at 582.
54 See id.
55 See id.
56 See id. at 583.
science requires. The Supreme Court held the same, though it made it clear that general acceptance in the relevant scientific community is no longer the sole criterion for scientific validity. Essentially, the Court held that a fact is not a fact until science says it is.

V. THE DUE PROCESS IMPLICATIONS OF DAUBERT

It seems to me that there is special cause for concern about how the Daubert rule will be applied in criminal cases. Daubert's due process implications are ominous.

In People v. Leahy, the California Supreme Court noted one commentator's observation that Frye may be constitutionally deficient to the extent that it excludes evidence favorable to the defense. The Frye test clearly had the effect, in some cases, of excluding reliable expert evidence. In some cases it had the effect of excluding reliable exculpatory expert evidence offered by criminal defendants. The Daubert test, though it is somewhat more tolerant than Frye, will have the same effect. The court acknowledged this in Daubert: "in practice, a gatekeeping role for the judge . . . inevitably on occasion will prevent the jury from learning of authentic insights and innovations."

In People v. John W., the defendant was accused of committing lewd and lascivious acts against young boys. He offered the testimony of a psychologist who would opine that the defendant was not a pedophile, basing his opinion on the results of a penile plethysmograph. When placed on the subject's penis, the penile plethysmograph measures the flow of blood to the penis (the degree of erection from one percent to a hundred) when the subject views photographs of naked women and naked boys. The trial judge excluded the evidence under the Califor-

57 See id. at 584-85.
58 See id. at 597.
59 882 P.2d 321 (Cal. 1994).
60 See id. at 330 (citing Harvard Law Review Ass'n, Leading Cases, 101 HARV. L. REV. 119, 125-27 (1987)).
61 See Daubert, 509 U.S. at 597.
62 229 Cal. Rptr. 783 (Ct. App. 1986).
63 See id. at 783.
64 See id. at 783-84.
nia version of the *Frye* test. The defendant failed to show that the penile plethysmograph had been generally accepted in the relevant scientific community. The state appellate court upheld the trial judge.

The result in *John W.* would be the same under *Daubert*. There was no showing that the penile plethysmograph had been validated in the way science validates such techniques. But why not admit such evidence? It makes sense. It is rationally based. It is "far more than a diagnostician's hunch." It rests on a basis more solid than mere "anecdotal data." It has a logical tendency in reason to shed meaningful light on a material issue — the defendant's character for sexual correctness toward children. The jury is not likely to be blindsided or overly awed by it. Courts need not protect jurors from it. Jurors can be trusted to use their common sense and give it the weight to which it is entitled in the circumstances of the particular case.

It seems to me also that the exclusion of generic psychological evidence concerning pitfalls in eyewitness identifications under the majority United States rule on that question is unwise. In *People v. Wright,* the California Supreme Court noted that "[t]he great weight of authority in this country is that the study of the reliability of eyewitness identification has not attained that degree of exactitude which would qualify it as a specific science." In *People v. Page,* a California appellate court upheld the exclusion of important and impressive psychological proof on persuasion and conformity in a murder prosecution in which the defendant claimed his confession was false. Similarly, in *People v. Alcala,* the California Supreme Court upheld the exclusion of psychological evidence concerning confabulation on the part of a critical prosecution witness.

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65 See id. at 784.
66 See id. at 785.
67 See id. at 788.
68 See Imwinkelried, supra note 27, at 486.
69 See id.
70 755 P.2d 1049 (Cal. 1988).
71 Id. at 1065 n.13 (quoting State v. Ward, 712 S.W.2d 485, 487 (Tenn. Ct. App. 1986)).
73 See id. at 926.
74 842 P.2d 1192 (Cal. 1992).
whose credibility was very much at issue. The exclusion of the psychological evidence in these cases seems to me to have been gratuitous. Jurors were deprived of logically relevant evidence, which might have been of great help to them, for no good reason except judicial xenophobia.

In *People v. Johnson*, three prison inmates were convicted of conspiracy to murder and murder of a prison guard. A number of other inmates testified for the prosecution. The defense offered the testimony of an expert, a sociologist, who had “studied the prison environment,” but the trial court excluded the testimony. Had he been allowed to testify, the expert would have “lecture[d] on . . . the prison environment.” His lecture would have included generic observations about the propensity of inmate informants and witnesses to give false information and testimony for personal advantage. The Court of Appeal affirmed, stating that such generalized “sociological lore” had no tendency in reason to impeach the present inmate witnesses. The court stressed that “[t]here was no showing [that the expert] had researched the particular inmates . . . or . . . made any scientific study of their credibility.” The court noted that, in *People v. Alcala*, the trial court was held to have properly found that the basis for the defense’s proposed confabulation expert was insufficient in part because the expert had not observed the interview of the allegedly confabulated witness.

However, in several syndrome cases decided in recent years, California Courts of Appeal and the California Supreme Court have approved admission of comparable generic expert testimony precisely because it was generic and not case specific when it

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75 See id.
76 23 Cal. Rptr. 2d 703 (Ct. App. 1993).
77 See id. at 708-09.
78 See id. at 712.
79 See id. at 708-12.
80 See id. at 712.
81 See id.
82 See id. at 710-11.
was offered by the prosecution.\textsuperscript{85} One cannot help but wonder whether courts are applying a double standard.\textsuperscript{84}

“A state’s legitimate interest in barring unreliable evidence does not extend to \textit{per se} exclusions [of evidence] that may be reliable in . . . individual case[s].”\textsuperscript{86} One of the most fundamental rights of an accused is the right to present witnesses in his own defense.\textsuperscript{86} To be sure, in exercising this right, “the accused . . . must comply with established rules of . . . evidence designed to assure . . . fairness and reliability.”\textsuperscript{87} But evidence rules “may not be applied mechanistically to defeat the ends of justice.”\textsuperscript{88} The right of a criminal defendant to present evidence is not absolute, but it is violated by “arbitrary rules that prevent whole categories of defense witnesses from testifying on the basis of \textit{a priori} categories that presume them unworthy of belief.”\textsuperscript{89}

Imaginative workers in a scientific field sometimes develop new procedures or techniques. More conservative colleagues may consider these developments radical, and may therefore reject them regardless of their worth. Consequently, under \textit{Frye} analysis, “admissibility may be denied to a reliable and scientifically provable technique because the logical ‘field’ to which it belongs refuses generally to accept it.”\textsuperscript{90} Under the \textit{Daubert} rule, the same result likely will prevail. Judges, predisposed to distrust scientific experts anyway, will be sympathetic to the argument that they must exclude the evidence because the results of the

\textsuperscript{85} See, e.g., People v. McAlpin, 812 P.2d 563, 569 (Cal. 1991) (allowing testimony of molestation “expert” regarding tendency of parents not to report molestation and heterogeneity of molesters generally); People v. Coleman, 768 P.2d 32, 49 (Cal. 1989) (disallowing testimony on rape trauma syndrome because it related to specific victim rather than class of victims as whole). The \textit{McAlpin} case also cites numerous cases discussing the admissibility of generic expert testimony. See \textit{McAlpin}, 812 P.2d at 569.

\textsuperscript{84} See Advisory Committee Note, \textit{Fed. R. Evid.} 702 (stating that Rule 702 “recognizes that an expert on the stand may give a dissertation or exposition of scientific or other principles relevant to the case, leaving the trier of fact to apply them to the facts”).


\textsuperscript{86} Chambers v. Mississippi, 410 U.S. 284, 302 (1973).

\textsuperscript{87} Id.

\textsuperscript{88} Id.

\textsuperscript{89} Washington v. Texas, 388 U.S. 14, 22 (1967).

\textsuperscript{90} MOENSSENS, \textit{supra} note 29, at 9.
new procedure or technique have not been validated in the way that scientists in the field in question customarily validate such things. When this happens, courts will have arbitrarily hindered criminal defendants in their ability to defend themselves.

The problem will be most pronounced in cases involving evidence based on a social science. I view the cases I have cited, in which courts have excluded social science evidence, especially psychological evidence, as a manifestation of the widespread and extreme distrust of experts in the social sciences among lawyers and judges. This attitude may have some basis in reality, but I believe that, in the final analysis, the most that is justified is a moderate degree of skepticism. Most social science evidence, in my experience, is extremely helpful. It sheds meaningful light on points that are not only beyond common understanding, but that are counter-intuitive.

The trial judge should play a gatekeeping role, but it should be a minimalistic one, and it should not be based on Rule 702, or on the state law equivalent of Rule 702 (in California, sections 720 and 801 of the Evidence Code). It should be based instead on fundamental relevance and probative-value-versus-prejudicial-effect-and-obfuscation analysis. Professor Nesson was right: “The legal standard of proof . . . require[s] only a rational basis for the expert’s opinion — a standard far short of scientific demonstration.”

CONCLUSION

Bill Klem’s supercilious dictum was, of course, wrong. A strike is a strike regardless of whether the umpire recognizes it as such. Daubert was, I submit, likewise wrong. A fact — for example, the causal relationship between a toxic substance and a particular injury, disease, or deformity, or the logical relationship between lack of physiological response to photographs of naked boys and nonpedophilia — is a fact even if it has not yet been established by formal scientific proof.

The Supreme Court has saddled the federal courts, and in effect will have saddled many of the courts in states which have

rules like Rule 702, with the Bill Klem fallacy. That is regrettable. The better course would have been to do what we in this country have always done, trust juries. They will not always get it right, but that is a price we have been willing to pay. I think the fact is they usually will get it right, one way or another.