Trial Judges: Gatekeepers or Usurpers? Can the Trial Judge Critically Assess the Admissibility of Expert Testimony Without Invading the Jury's Province to Evaluate the Credibility and Weight of the Testimony?

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TRIAL JUDGES—GATEKEEPERS OR USURPERS? CAN THE TRIAL JUDGE CRITICALLY ASSESS THE ADMISSIBILITY OF EXPERT TESTIMONY WITHOUT INVADING THE JURY'S PROVINCE TO EVALUATE THE CREDIBILITY AND WEIGHT OF THE TESTIMONY?

EDWARD J. IMWINKELRIED

"It is commonly said that... 'questions of fact' [are] for the jury."²

"Credibility determinations are the exclusive province of the jury."³

There are a number of common generalizations about the respective roles of the jury and judge at American trials. One bromide is that the jury resolves "questions of fact."⁴ At first blush, that bromide seems to hold true. After all, the constitutional right a to civil jury trial is guaranteed by the Seventh Amendment to the United States Constitution,⁵ and the right to a criminal jury trial is similarly secured by

1. Professor of Law, University of California, at Davis. B.A., 1967; J.D., 1969, University of San Francisco; former Chair, Evidence Section, American Association of Law Schools.


4. HART & SACKS, supra note 2, at 349-62.

5. See U.S. CONST., amend. VII.
the Sixth Amendment. The latter right is so fundamental that a trial judge may not direct a verdict against an accused even when the prosecution evidence is overwhelming and the defense submits no rebuttal testimony.

The difficulty is that on close scrutiny, the generalization breaks down. Although the jury has the primary authority to decide the factual questions on the merits of the case, another type of factual issue often arises at trial—questions that condition the admissibility of evidence. Suppose, for example, that at trial, the proponent offers testimony about an out-of-court statement under the common-law excited utterance hearsay exception. The judge determines the admissibility of proffered evidence. When the item of proffered evidence is an alleged excited utterance, the trial judge must decide whether the declarant was in a state of nervous excitement at the time of the statement. That question is factual in nature: the resolution of the question requires the trial judge to decide whether, at a particular date and time, the declarant was in a certain frame of mind. Or suppose that the opponent objects to the introduction of testimony about an out-of-court statement on the ground that the statement was a confidential spousal communication and thus privileged at common law. In order to pass on that objection, the judge must decide whether the declarant spouse intended the revelation to remain secret. Once again, the decision turns on a factual determination: the judge must attempt to reconstruct history and decide whether, at the time of the revelation, the declarant had the requisite state of mind.

The trial judge not only enjoys the power to make these factual determinations under the common law; the judge's power has also been

6. See U.S. CONST. at amend. VI.
7. See Rose v. Clark, 478 U.S. 570 (1986); Smelcher v. Attorney Gen., 947 F.2d 1472, 1476 (11th Cir. 1991); United States v. Goings, 517 F.2d 891 (8th Cir. 1975); United States v. Bosch, 505 F.2d 78 (5th Cir. 1974); United States v. Lee, 483 F.2d 959 (5th Cir. 1973).
10. See FED. R. EVID. 803(2).
12. See id. at § 42.
codified by the Federal Rules of Evidence. In pertinent part, Federal Rule of Evidence 104(a) reads:

(a) Questions of admissibility generally. Preliminary questions concerning the qualification of a person to be a witness, the existence of a privilege, or the admissibility of evidence shall be determined by the court, subject to the provisions of subdivision (b).  

Rule 104(b) adds:

(b) Relevancy conditioned on fact. When the relevancy of evidence depends upon the fulfillment of a condition of fact, the court shall admit it upon, or subject to, the introduction of evidence sufficient to support a finding of the fulfillment of the condition.  

The Advisory Committee Note to Rule 104(a) declares that when a question conditions the technical admissibility of evidence, the decision is "made by the judge." The Note explains that "[t]o the extent that these inquiries are factual, the judge acts as a trier of fact." The Note states that when the judge functions in that capacity, "the judge will of necessity receive evidence pro and con on the [factual] issue."  

The nature of judicial rulings under Rule 104(a) calls into question another bromide about the allocation of fact-finding power at American trials, namely, the generalization that jurors decide the credibility of witnesses. When, in the context of a 104(a) ruling, the judge must resolve a factual question on a record containing "evidence pro and con," the judge sometimes has to weigh the credibility of the foundational testimony. The leading federal precedent on Rule 104(a) is the Supreme Court's 1987 decision in Bourjaily v. United States. There, the Court noted that when judges pass on factual questions under

13. FED. R. EVID. 104(a).
14. FED. R. EVID. 104(b).
15. FED. R. EVID. 104(a) advisory committee note.
16. Id.
17. Id.
18. See United States v. Cisneros, 203 F.3d 333, 343 (5th Cir. 2000); Seidelson, supra note 3, at 1059.
19. FED. R. EVID. 104(a) advisory committee note.
Rule 104(a), they "act as factfinders."\(^{21}\) The Court stated that in that capacity, the judge is entitled to determine the "weight" of the evidence submitted pro and con.\(^{22}\) A year later, in *Huddleston v. United States*,\(^ {23}\) the Court handed down the foremost precedent on Rule 104(b). The Court contrasted the judge's limited role under Rule 104(b) with the judge's broader authority under Rule 104(a).\(^ {24}\) In expounding on the contrast, the Court stated that under 104(b), the judge "neither weighs credibility nor makes a finding" of fact.\(^ {25}\) Thus, the Court recognized that when Rule 104(a) controls a judge's ruling on a factual issue conditioning the technical admissibility of evidence, the judge may consider the credibility of the foundational testimony submitted pro and con.

The Court's pronouncements about Rule 104(a) took on greater importance in 1993 when the Supreme Court decided *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,\(^ {26}\) the landmark decision on the admissibility of purportedly scientific testimony. Substantively, the *Daubert* Court held that the adoption of the Federal Rules of Evidence in 1975 had impliedly overturned the traditional *Frye* general acceptance test for determining the admissibility of scientific evidence.\(^ {27}\) However, the Court was quick to add that the repeal of the general acceptance standard did not mean that trials will become a "free-for-all"\(^ {28}\) at which purportedly scientific testimony is routinely admissible. Rather, the Court ruled that to be admissible, such testimony must qualify as reliable "scientific... knowledge" within the meaning of that expression in Federal Rule of Evidence 702.\(^ {29}\) The Court announced an essentially methodological test for determining the admissibility of such testimony.\(^ {30}\) Out of respect for the jury's role, the Court cautioned that the trial judge is not to decide the validity of "the conclusion... generate[d]" by the expert's methodology.\(^ {31}\) That conclusion is the item

\[\begin{align*}
21. & \text{Id. at 180.} \\
22. & \text{Id. at 181.} \\
24. & \text{See id. at 690.} \\
25. & \text{Id.} \\
27. & \text{See id. at 585-89.} \\
28. & \text{Id. at 595.} \\
29. & \text{Id. at 590.} \\
30. & \text{See id. at 592-93.} \\
31. & \text{Id.}
\end{align*}\]
of proffered evidence ultimately to be submitted to the jury. Instead, the judge is to focus on the foundation for the proffered evidence, that is, the "principles and methodology" used to "generate" the expert's conclusion. The foundation must demonstrate that the expert's ultimate conclusion was "derived by the scientific method. Proposed testimony must be supported by appropriate validation—i.e., 'good grounds'."

Procedurally, the Daubert Court made it clear that the judge's ruling on this foundational question falls within the ambit of Federal Rule 104(a). The Court contemplated "a gatekeeping role for the judge." The Court asserted that the Federal Rules "assign to the trial judge the task of ensuring that an expert's testimony... rests on a reliable foundation." The Court expressly stated that the judge is to discharge that task "pursuant to Rule 104(a)."

The Court's substantive decision in Daubert has generated a mountain of literature. However, to date there has been little commentary on the procedural facets of the Court's decision. With the exception of less than a handful of articles, the commentators have largely ignored the procedural issues posed by the administration of the Daubert Court's new validation test. For instance, although the Advisory Committee Note to Rule 104(a) states that the judge may consider both "pro" evidence submitted by the proponent and "con" evidence submitted by the opponent, it is not even settled whether the opponent's "con" evidence can take the form of testimony attacking the credibility of the proponent's "pro" witnesses.

The neglect of the procedural aspects of Daubert is understandable.

32. CAL. EVID. CODE § 401 (West 1995).
33. Daubert, 509 U.S. at 595.
34. Id. at 590.
35. Id. at 597.
36. Id.
37. Id. at 592.
41. FED. R. EVID. 104(a) advisory committee note.
There has long been a dearth of both case law and scholarly commentary on the question of the extent to which the trial judge may factor the credibility of foundational testimony into a decision under Rule 104(a). Even the most in-depth, multi-volume evidence treatises are largely silent on the question. For that reason, it should come as no surprise that on the two recent occasions when the issue has arisen, the courts reached differing results. In one case, a federal district court ruled that the opponent could not cross-examine the proponent's witness to expose a bias relevant to the witness's credibility. However, in a subsequent 1999 decision, the Court of Appeals for the Third Circuit held that a federal district court properly excluded proffered scientific testimony as incredible because the proponent's expert had been impeached by prior deposition testimony inconsistent with his foundational testimony. In the appellate court's view, the inconsistency justified the trial judge in finding that the witness's foundational testimony was "untruthful." However, the appellate court majority reached this conclusion over a vigorous dissent by Chief Judge Becker, one of the leading judicial authorities on Evidence. The dissent protested that the trial judge had "confuse[d] the reliability of an expert witness—a matter for the jury—with the reliability of his or her methodology—a matter initially for the trial judge." Chief Judge Becker argued that the evidence of the witness's prior inconsistent statements was "irrelevant" to the trial judge's decision under Rule 104(a).

In all probability, the importance of this procedural question will grow in the near future. To begin with, the use of expert testimony is likely to increase. In a Rand Corporation study of the use of expert
testimony in California courts of general jurisdiction,\(^5\) the researchers found that "[e]xperts testified in 86% of the[] civil jury trials."\(^5\) The researchers discovered that "[i]n nearly three quarters of the trials in which experts testified (or 63% of all trials) there were experts on both sides."\(^5\) Moreover, in 1999 the Supreme Court extended the reach of Daubert to non-scientific expert testimony. In Kumho Tire Co., Ltd. v. Carmichael,\(^5\) the Court decided that all species of expert testimony are subject to "Daubert style scrutiny."\(^4\) The Court stated that the proponent cannot escape from a "gatekeeping inquiry"\(^5\) by the simple expedient of labeling the proffered testimony non-scientific. The judge's "gatekeeping obligation" applies to all types of expert testimony.\(^5\)

Indeed, the importance of this question transcends expert testimony cases. The fundamental issue is the allocation of factfinding power between the trial judge and jury. Respected commentators have expressed alarm at a gradual trend to expand the judge's authority at the expense of the petit jury.\(^5\) They contend that as a result of this trend, judges are increasingly "resolv[ing] factual disputes that go to the heart of the case, thereby invading the province of the jury."\(^5\) In short, this neglected procedural issue implicates the future of the jury as a democratic institution. Given that implication and the incidence of the use of expert testimony, it is imperative to address the procedural question.

The thesis of this short article is that in resolving factual disputes under Rule 104(a), to a degree, trial judges should be permitted to consider the opponent's evidence impeaching the credibility of the proponent's foundational testimony. To develop that thesis, this article proceeds in four steps. The first section of this article describes the early American law that governed the judge's power to find facts determining the admissibility of testimony. At that juncture in our legal history, the trial judge decided every question of fact conditioning the application of

\(^{51}\) Id. at 1119.
\(^{52}\) Id. at 1120.
\(^{54}\) Id. at 158.
\(^{55}\) Id. at 150.
\(^{56}\) Id. at 147.
\(^{58}\) Id. at 272 n.3.
all evidentiary rules. The second section shifts to the modern era. That section describes the contemporary state of the law under Rule 104 and explains that in some cases governed by Rule 104(b), the trial judge no longer possesses plenary factfinding power. Further, the section clarifies that in other cases controlled by Rule 104(a), the trial judge still enjoys true factfinding power. However, the section notes that even at this late date, it is still unsettled the extent to which a judge under 104(a) should permit the opponent to introduce evidence attacking the credibility of the proponent's foundational testimony.

The remaining sections of this article are primarily evaluative. The third section identifies the policy factors which should influence the extent to which a trial judge ought to allow the opponent to submit evidence attacking the credibility of the proponent's foundational testimony. The fourth section uses these policy factors to evaluate three possible models for the scope of the judge's factfinding under Rule 104(a). The section argues for a compromise model that accords the judge limited authority to consider impeaching evidence that bears with relative directness on a genuine credibility dispute over the proponent's foundational testimony. Finally, positing the compromise model, the section exemplifies both impeaching evidence the judge should arguably be allowed to consider and evidence exceeding the judge's limited authority.

I. A DESCRIPTION OF THE EARLY AMERICAN LAW THAT GOVERNED THE TRIAL JUDGE'S AUTHORITY TO DETERMINE FACTUAL QUESTIONS CONDITIONING THE ADMISSIBILITY OF EVIDENCE

The state of the early law can be described simply and briefly: the judge had plenary authority to decide all the questions of fact conditioning the admissibility of testimony. The traditional English view was that the judge determined all foundational or preliminary facts. English judges considered the testimony on both sides of the foundational testimony and resolved any incidental questions of


credibility. Even after the American Revolution, American courts tended to follow the British practice. It became a virtual "article of faith" that the trial judge's authority encompassed the determination of all factual questions conditioning the admissibility of proffered evidence. This was not only the early common-law conception of the judge's authority; this conception was likewise codified in Rule 8 of the Uniform Rules of Evidence, Rule 11 of the Model Code of Evidence, and state statutes such as California Code of Civil Procedure § 2102 adopted in 1872. In short, until the modern era, there was virtually universal agreement that whenever the application of an evidentiary rule to an item of proffered testimony necessitated the resolution of a factual question, the judge—and the judge alone—decided the question.

II. A DESCRIPTION OF THE MODERN AMERICAN LAW GOVERNING THE TRIAL JUDGE'S AUTHORITY

A. The Attack on the Expansive, English View of the Judge's Authority

As we have seen, the early American courts unquestioningly followed the English view, which empowered the trial judge to decide every factual question conditioning the application of an evidentiary rule. However, that view was eventually challenged. The leading critics were Jacksonian democrats. The Jacksonians were fearful of a powerful, aristocratic judiciary. For that reason, they favored the popular election of judges.

More importantly, the Jacksonians advocated a shift of preliminary

61. See id.
62. See id. at 212.
64. UNIF. R. EVID. 8, reprinted in WRIGHT & GRAHAM, supra note 42, at § 5051, at 241 n.3.
65. MODEL CODE OF EVIDENCE Rule 11 (1942).
67. See WRIGHT & GRAHAM, supra note 42, at § 5052, at 249-50.
68. See id. § 5052, at 251 (1977).
factfinding power to the jury. If the judge has plenary power to decide all the foundational facts conditioning the admissibility of evidence, as a practical matter the judge can undermine the jurors' power to resolve the facts on the merits of the case. "[T]he functioning of the jury as a trier of fact [c]ould be greatly restricted and in some cases virtually destroyed." In a civil case, the judge might choose to disbelieve all the plaintiff's foundational testimony. Having done so, the judge could exclude all the items of evidence proffered by the plaintiff. At that point, the judge could peremptorily enter judgment for the defendant on the ground that the plaintiff had presented no evidence to sustain its initial burden of production or going forward. Thus, the judge could abuse his or her preliminary factfinding power to dictate the result in the case. There would be a similar potential for abuse in criminal cases. By purporting to disbelieve all of an accused's foundational testimony, the judge could preclude the introduction of vital exculpatory evidence. Even if the Sixth Amendment prevented the trial judge from directing the jury to return a guilty verdict, in some cases the judge could make a guilty finding a foregone conclusion.

B. The Responses to the Attacks: The Emergence of the Modern Competence—Conditional Relevance Dichotomy in Judicial Factfinding

1. The Common Law

After the Jacksonian critique of the traditional English view, a few, isolated American opinions deviated from the English practice. However, the major inroads on the English practice did not occur until the 1920s. Late in that decade, three commentators, Epstein, Maguire, and Morgan, helped develop a new approach to foundational or preliminary factfinding.

The new theory was responsive to the democratic critique of the traditional English view. The new theory shifted to the jury all the

70. See WRIGHT & GRAHAM, supra note 42, § 5052, at 251.
72. FED. R. EVID. 104(b) advisory committee note.
73. See, e.g., Patton v. Bank of La Fayette, 53 S.E. 664 (Ga. 1906); Winslow v. Bailey, 16 Me. 319 (1839).
74. See Laughlin, supra note 71, at 286.
75. Maguire & Epstein, supra note 63, at 392; Edmund Morgan, Functions of Judge and Jury in the Determination of Preliminary Questions of Fact, 43 HARV. L. REV. 165 (1929).
preliminary factfinding power which the commentors believed lay jurors could be trusted with. In particular, the theory posited that the jury should be able to decide whether a lay witness has personal knowledge of the event he or she proposes testifying about. The argument was not simply that lay jurors were competent to decide whether the witness was in fact at the intersection at the time of the collision the witness contemplated describing. More fundamentally, allocating the jury the power to make that decision did not imperil the integrity of their later deliberations in the case. Assume that the jury decided that the witness did not observe the accident; the jury finds that the witness is lying or mistaken. On that assumption, common sense would ordinarily lead the jury to disregard the witness's testimony about the accident during the balance of their deliberations. Thus, even if the jury is exposed to the foundational testimony and the foundational fact turns out to be false, the exposure will not distort the jury's deliberations about the merits of the case.

Based on the same reasoning, the theory assigns the jury the power to decide whether an exhibit such as a letter is authentic. If the jury determines that the letter is a forgery, once again they should naturally disregard the letter's contents during their deliberations. If the plaintiff proffers the letter as an admission by the defendant but the jury finds that the defendant did not author the letter, it will be evident to the jury that they should attach no weight to the letter.

These issues are usually designated "conditional relevance" questions. In an elementary sense, these facts condition the logical relevance of the evidence. If the witness is called to testify about an accident but the witness lacks firsthand knowledge, the jury will naturally dismiss the witness's testimony as worthless. Similarly, if the prosecution claims that the defendant mailed a threatening letter to a witness but the jury concludes that the defendant did not write the letter, the jurors will probably put the letter aside during their deliberations. In the words of the California Assembly Committee on Judiciary,

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76. See Fed. R. Evid. 602.
77. See Fed. R. Evid. 901.
78. See United States v. James, 576 F.2d 1121, 1129 (5th Cir. 1978) ("the jury's own natural inclination to ignore what it considers irrelevant").
79. See Fed. R. Evid. 104(b) advisory committee note; Fed. R. Evid. 602 advisory committee note; Fed. R. Evid. 901 advisory committee note.
Frequently, the jury's duty to disregard conditionally admissible evidence when it is not persuaded of the existence of the preliminary fact on which relevancy is conditioned is so clear that an instruction to this effect is unnecessary. For example, if the disputed preliminary fact is the authenticity of a deed, it hardly seems necessary to instruct the jury to disregard the deed if it should find that the deed is not genuine. No rational jury could find the deed to be spurious and, yet, to be still effective to transfer title from the purported grantor.  

In contrast, even the proponents of the new theory acknowledged that it is necessary to apply the English view to many foundational facts. To distinguish those facts from facts conditioning the fundamental logical relevance of proffered evidence, the theory characterizes the former facts as conditioning the "competence" of the evidence. The facts conditioning the application of a privilege such as attorney-client are illustrative. One of the foundational facts is that the client's communication with his or her attorney occurred in physical privacy. Suppose that the accused were charged with a heinous offense such as murdering an infant and that the prosecution had testimony from an eavesdropper that the accused had confessed the crime to his attorney. The prosecution claims that the conversation was not private because the client knew that a third party was standing within easy earshot, but the client denies that the third person was present at the time. In this situation, realistically the lay jurors cannot be trusted to administer the privilege doctrine. Even if they found that the attorney-client communication was confidential and technically privileged, during any later deliberations at the subconscious level they might nevertheless be influenced by their exposure to the testimony about the confession. For that matter, at a conscious level some jurors might be tempted to

81. See Morgan, supra note 75, at 165 n.2.
82. See Assembly Comm. Jud. Comment, CAL. EVID. CODE § 405, quoted in IMWINKELRIED & HALLAHAN, supra note 80, at 36.
83. While the early common law permitted eavesdroppers to testify to otherwise privileged communications, the modern view is contra. 1 MCCORMICK, EVIDENCE § 74.
84. See Saltzburg, supra note 57, at 271 ("trepidations as to the ability of jurors").
85. See United States v. James, 576 F.2d 1121, 1127-32 (5th Cir. 1978) (explaining why the determination of the voluntariness of a confession should be allocated to the trial judge: after exposure to a confession, the jurors might be "influenced by its belief that the confession, even though coerced was true"; it is "unrealistic" to think that the lay jurors would not be "swayed" by the foundational testimony).
consider the inadmissible confession; it might strike them that applying the "technical" evidentiary rule would frustrate substantive justice and set a guilty person free. In short,

No one doubts the jury's competence to decide whether a person was physically present when the attorney and client conversed; the issue of a person's presence at a particular time and place is a simple, straightforward question that jurors can easily resolve. Yet we routinely assign the determination of that preliminary fact to the judge. We do so because the jury, having heard the foundational proof and the contents of the proffered privileged communication, will have difficulty complying with an instruction to disregard the communication [even] if they decide that it was privileged.\footnote{Imwinkelried, \textit{supra} note 59, at 615 (citations omitted).}

This reasoning helps rationalize the courts' decision to allocate the decision over the foundational fact of the methodological validity of a scientific theory to the trial judge.\footnote{See \textit{Daubert v. Merrell Dow Pharms., Inc.}, 509 U.S. 579, 592-93 (1993); \textit{People v. King}, 72 Cal. Rptr. 478, 492 (Cal. Ct. App. 1968).} Just as the jury is competent to decide the issue of a person's presence at a particular time and place, the \textit{Daubert} Court expressed its faith in the jury's ability to determine the weight to be assigned to scientific evidence. The Court rejected the views of those who are "overly pessimistic about the capabilities of the jury"\footnote{\textit{Daubert}, 509 U.S. at 596.} sitting in cases where the parties rely on scientific testimony. The critical point, though, is that as in the case of privilege foundations, if the jury were exposed to the foundational testimony on the scientific evidence and found the evidence technically inadmissible, there would be a grave risk that the foundational testimony would nevertheless distort their subsequent deliberations.

That risk arises from the concurrence of several characteristics of scientific evidence. To begin with, foundations for scientific testimony tend to be much lengthier than foundations for other evidence. A foundation, demonstrating a lay witness's personal knowledge,\footnote{See \textit{FED. R. EVID.} 602.} could be quite short, consuming only half a page of the trial record. However, in one case involving a challenge to radar speedmeter evidence, the out-of-court admissibility hearing generated "over 2000 pages of testimony.
and arguments."\textsuperscript{90} The admissibility hearing in a DNA case "took place over a twelve week period producing a transcript of approximately five thousand pages."\textsuperscript{91} Common sense suggests that "when jurors listen to hours of foundational scientific proof, they will have difficulty [completely] ignoring the proof during their deliberations [even if] they find that the preliminary fact does not exist."\textsuperscript{92}

A psychological factor magnifies the risk:

The... literature on memory [indicates that i]f a person processes information thoroughly, his memory of that information will be stronger. Although the extent of processing is not directly proportional to the difficulty of comprehension, the person's struggle to understand the information may enhance the depth of processing, and that greater depth should make the memory stronger. [Greater depth of processing]... makes the memory of information less subject to decay. If a conscientious juror makes an earnest effort to understand... hours of foundational scientific testimony, the juror [may] be... unable to disregard the testimony completely during the final deliberations. The juror may forget many of the details of the testimony, but the overall impression left by the testimony will be difficult to repress.\textsuperscript{93}

Finally, the overtly probabilistic nature of the foundational testimony for scientific evidence increases the risk that the jurors would be unable to set aside the testimony during their deliberations even if at a conscious level they decided that the evidence was technically inadmissible. In the case of other foundational questions such as a lay witness's personal knowledge or a letter's authenticity, the jurors are inclined to conceive of the question as a categorical issue. Either the witness viewed the accident, or she did not. Either the defendant wrote the letter, or he did not.\textsuperscript{94} In contrast, the foundational testimony for a scientific theory or technique is often explicitly probabilistic, identifying the margin of error for the scientific hypothesis.\textsuperscript{95} For example, the testimony might indicate that while the technique works accurately 60%
of the time, there is a 40% margin of error. Assume that based on this record, the jurors conclude that the technique is too error prone to be admissible. Yet,

[T]he jurors might be unable to disregard the testimony about the scientific technique [during their later deliberations]. The jurors know that the technique works sometimes; the foundational testimony indicates that the technique often works. The proponent's expert may be eminently qualified, one of the preeminent authorities in the field. The jurors may be tempted to conclude that the expert's exceptional credentials compensate for the technique's margin of error ... [S]ubconsciously they might suspect that the superbly qualified expert on the stand could make the technique work. Thus, the jury's ability to disregard the evidence is doubtful...

In light of these considerations, it was understandable that the common law would assign the trial judge the task of resolving the questions of fact conditioning the admissibility of scientific testimony.

2. The Federal Rules of Evidence

Just as the Daubert Court chose to follow the common law in announcing that Rule 104(a) governed the foundation for a proffer of scientific evidence, the drafters of the Federal Rules relied on the modern common law theory of preliminary factfinding in shaping Federal Rules of Evidence 104(a) and 104(b). The Advisory Committee Note expressly cites the most famous works on the subject by Epstein, Maguire and Morgan. Rule 104(a) governs facts conditioning the competence of evidence. As the statute reads, those factual questions "shall be determined by" the trial judge. The accompanying Advisory Committee Note explains that in this setting, the judge "determine[s]" the facts in the broad sense that he or she "acts as a trier of fact." At the same time, Rule 104(b) controls facts conditioning the fundamental

96. Id. at 602-03.
98. See Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 592 (1993); King, 72 Cal. Rptr. at 478.
99. Id.
100. See FED. R. EVID. 104 advisory committee note.
101. FED. R. EVID. 104(a).
102. FED. R. EVID. 104(a) advisory committee note.
probative worth of the evidence. The statute provides that Rule 104(b) applies "[w]hen the [very] relevancy of evidence depends upon the fulfillment of a condition of fact." 103 such as a lay witness's personal knowledge or an exhibit's genuineness. Unlike Rule 104(a), Rule 104(b) does not authorize the judge to "determine[]" the factual question. Rather, Rule 104(b) states that the judge "admit[s the proffered evidence] upon, or subject to, the introduction of evidence sufficient to support a finding of the fulfillment of the condition." 104 Thus, the judge does not determine as a factfinder, for example, whether the witness observed the traffic accident. The judge plays a more limited role; the judge's inquiry is confined to determining whether the record contains sufficient foundational testimony to permit rational jurors to conclude that the witness saw the accident.

C. The Specific Procedures Used to Implement the Modern Dichotomy Between Facts Conditioning the Logical Relevance of Proffered Evidence and Those Conditioning the Competence of the Evidence

The wording of Rules 104(a) and 104(b) generally suggests the procedures which trial judges should use to implement the statutes. The courts have elaborated on those procedures. For the most part, the courts are now in agreement over the proper procedures under the two statutes.

For instance, there is a consensus, that under Rule 104(b), the judge plays a limited, screening role. By the terms of the statute, the judge is authorized to address only one question, namely, whether the proponent has "introduc[ed] . . . evidence sufficient to support a finding of the fulfillment of the condition" such as a lay witness's personal knowledge. 105 Thus, in the typical case the judge need not consider any contrary testimony by the opponent; the judge's task is restricted to assessing the sufficiency of the proponent's foundational testimony to permit a rational juror to find that the foundational fact is true. As the Supreme Court itself remarked in Huddleston, a judge ruling under 104(b) "neither weighs credibility nor makes a [true] finding" of fact. 106 After evaluating the sufficiency of the proponent's foundational testimony, the judge rules immediately on the objection; and the opponent submits any rebuttal testimony to the jurors rather than the

103. FED. R. EVID. 104(b).
104. Id.
105. Id.
judge. The true fact finding is to be made by the jurors.\textsuperscript{107} The jurors make the ultimate decision whether the lay witness actually observed the accident or whether the purported author wrote the letter. At the admissibility stage the trial judge must accept the proponent's foundational testimony at face value. The judge limits his or her analysis to the following question: if the jury decides to believe the testimony, cumulatively does the testimony have sufficient probative value to support a permissive inference of the existence of the foundational fact? On the opponent's request, during the final jury charge the judge will instruct the jury that: the proponent has the burden of persuading the jurors that the foundational fact is true; if the jury finds that the proponent has met the burden, they may consider the proffered evidence during their deliberations; but if the jury finds that the proponent has failed to sustain the burden, the jurors are "to disregard the proffered evidence."\textsuperscript{108}

There is also agreement that the procedures are radically different for competence facts under Rule 104(a). Again, the Advisory Committee expressly stated that under 104(a), the trial judge functions "as a trier of fact."\textsuperscript{109} To effectively perform that function, the trial judge must hear testimony both pro and con on the foundational fact.\textsuperscript{110} The judge does not rule immediately on the opponent's objection; rather, to enable the opponent to present his or her testimony on the foundational fact before the judge's ruling, the judge permits the opponent to conduct a voir dire in support of his or her objection.\textsuperscript{111} In ruling, the judge considers the foundational testimony submitted by the opponent as well as that presented by the proponent.

While there is a solid judicial consensus on the above procedures, there remains a troublesome point of disagreement among the courts: the proper scope of this voir dire. In particular, there is a nagging question as to how far the trial judge should allow the opponent to go during voir dire in presenting evidence attacking the proponent's foundational testimony. As the Introduction to this Article notes, that is precisely the question that has divided the lower courts in several recent

\begin{footnotes}
\item[107.] See Assembly Comm. on Jud. Comment, CAL. EVID. CODE § 403, quoted in IMWINKELRIED & HALLAHAN, supra note 80, at 32.
\item[108.] Id. at CAL. EVID. CODE § 403(c)(1).
\item[109.] FED. R. EVID. 104(a) advisory committee note; see also United States v. Petroziello, 548 F.2d 20, 23 (1st Cir. 1977).
\item[110.] See MUELLER & KIRKPATRICK, supra note 42, § 27(c), at 148.
\end{footnotes}
decisions applying Daubert. There is pre-Rules, common-law authority that during the voir dire the opponent is not limited to questioning the proponent's foundational testimony; the judge "has discretion to admit extrinsic evidence on the question."112 For instance, at common law, the factual questions determining the competency of a prospective witness fell under the competence procedure. Before the judge ruled finally on a challenge to the prospective witness's competency, the judge could entertain testimony about "mental and psychological tests... and opinion evidence of psychiatric experts."113 As previously stated, in Huddleston114 and Bourjaily115 the Supreme Court strongly implied that a judge ruling under 104(a) may pass on the credibility of the foundational testimony presented by both sides. In post-Rules decisions, a number of lower courts have gone further and expressly stated that the judge may do so.116 Yet, even at this late date—almost three quarters of a century after the birth of the modern theory of preliminary factfinding—there are only a few, scattered precedents specifically addressing the question of which factors a judge may consider in evaluating the credibility of the foundational testimony. Those precedents allow the trial judge to weigh such considerations as the foundational witness's demeanor,117 a witness's inconsistent statements at other hearings,118 the witness's medical records,119 psychiatric assessments of the witness's mental condition,120 and other expert opinions.121 Yet, other authorities favor a

113. Id.
116. See Precision Piping & Instruments, Inc. v. E. I. du Pont de Nemours & Co., 951 F.2d 613, 621 (4th Cir. 1991) ("credibility determinations"); Earle v. Benoit, 850 F.2d 836, 842 (1st Cir. 1988) (the trial judge must "weigh the evidence and assess its credibility"); United States v. Nichols, 695 F.2d 86, 91 (5th Cir. 1982) ("judging the credibility of the [foundational] witness is a matter for the trial court"); United States v. Martorano, 557 F.2d 1, 12 (1st Cir. 1977) ("weight").
117. See 1 WEINSTEIN'S FEDERAL EVIDENCE §104.16[4][b], at 104-58 n.39 (2d ed. 2000) (citing Precision Piping, 951 F.2d at 621).
118. Id. § 104.14[2], at 104-32 n.4 (citing Haggins v. Warden, Fort Pillow State Farm, 715 F.2d 1050, 1055-58 (6th Cir. 1983), cert. denied, 464 U.S. 1071 (1984)).
119. See MUELLER & KIRKPATRICK, supra note 42, § 25, at 141 n.9 (citing United States v. Crosby, 462 F.2d 1201, 1203 (D.C. Cir. 1972)).
120. See id. § 25, at 139 n.1 (citing United States v. Martino, 648 F.2d 367 (5th Cir. 1981)).
121. See United States v. Brown, 479 F. Supp. 1247, 1255 n.10 (D. Md. 1979) ("When a question is raised as to the competency of a witness to testify, it is for the judge to decide. He
narrow scope for the voir dire and insist that the opponent should not be permitted to convert the voir dire into a wide-ranging cross-examination.\footnote{122. See Imwinkelried, \textit{supra} note 11, at 61.}

Thus, the question is squarely posed: during voir dire is the opponent strictly limited to presenting evidence that speaks directly to the merits of the issue of the validity of the scientific theory or technique in question, or may the opponent also submit evidence that attacks the credibility of the proponent's foundation? Neither the statutes nor the Supreme Court decisions answer that question.\footnote{123. See \textit{Wright} \& \textit{Graham}, \textit{supra} note 42, \textsection 5053, at 261.} The ensuing sections of this article attempt to resolve that question.

\section*{III. An Identification of the Policy Considerations That Should Shape the Scope of Voir Dire Examination Under Federal Rule of Evidence 104(a)}

Section II noted that while there is a substantial judicial consensus over the proper factfinding procedures under Rules 104(a) and 104(b), one issue remains unsettled: the scope of voir dire examination under Rule 104(a). Section IV of this article evaluates several possible models for the scope of voir dire examination. However, before we can critically evaluate the models, we must identify the policy factors relevant to the evaluation. Three come to mind.

One policy consideration cuts in favor of according the voir dire a broad scope. That consideration is that the scope must be expansive enough to enable the trial judge to make an intelligent ruling on the question of whether the proponent has established by a preponderance of the foundational testimony that the proffered expert's reasoning is methodologically sound. The Supreme Court has already decided that the resolution of that question ought to be assigned to the trial judge under Rule 104(a).\footnote{124. See \textit{Daubert v. Merrell Dow Pharm., Inc.}, 509 U.S. 579, 592 (1993).} Moreover, as we have seen, that decision is defensible. It would be unsound to allocate that decision to the jurors under Rule 104(b); the length of the typical scientific evidence foundation, the factor of depth of processing, and the probabilistic nature of the foundational testimony concur to create a grave risk that exposure to the foundational testimony would distort the jurors' deliberations even if at a conscious level they decided that the scientific evidence was technically inadmissible. If the judge is to shield the jury may call to his aid the testimony of expert witnesses.\text{"})
from "junk" science by separating the wheat from the chaff, the judge must have access to enough information to make his or her decision on a rational, non-arbitrary basis.

However, two countervailing policies cut in the opposite direction and favor according voir dire a relatively narrow scope. One countervailing policy is the concern that expanding the scope of the voir dire will enable the trial judge to undercut the trial jury's power. While Rule 104(a) empowers the judge to decide the factual questions conditioning the application of evidentiary competence rules, the trial judge may not invade the jury's province by usurping the jury's role as factfinder with respect to the substantive issues in the case.

This factor will frequently come into play when the voir dire deals with the foundation for scientific evidence. As previously stated, expert testimony is often offered at contemporary trials. Moreover, such testimony is frequently outcome determinative. In a civil tort action, a ruling excluding the plaintiff's expert medical causation testimony might render the plaintiff's case vulnerable to a defense summary judgment motion. Likewise, the prosecution might never get to the jury if the judge determines that its expert trace evidence, linking the accused to the crime scene, is inadmissible. In Daubert, the Court cautioned the trial judiciary against overstepping its bound. While the Court tasked trial judges to decide whether the proffered expert's reasoning rests on validated "principles and methodology," in the next breath the Court added that trial judges are not to pass on the expert's ultimate "conclusions"—the opinions that will ultimately be submitted to the jury for their consideration.

A second and final countervailing policy is the concern that broadening the scope of the voir dire might unduly prolong the trial. Given the interest in judicial economy, the opponent should not be

126. See Saltzburg, supra note 57, at 272 n.3.
127. See Mueller & Kirkpatrick, supra note 42, § 24, at 133.
128. See Gross, supra note 50, at 1119.
130. See Gianelli & Imwinkelried, supra note 38, at Ch. 24.
132. Id.
133. See Wright & Graham, supra note 42, § 5053, at 264 (discussing Federal Rule of Evidence 403).
permitted to convert the admissibility hearing into a full trial\textsuperscript{134} by conducting a wide-ranging cross-examination under the guise of voir dire.\textsuperscript{135} Just as scientific evidence proffers often implicate the countervailing consideration of protecting the jury's factfinding power, an expert foundation can trigger this policy. As previously stated, out-of-court hearings into the admissibility of expert testimony can last weeks and consume thousands of pages of transcript.\textsuperscript{136} In many jurisdictions, trial court backlogs are still distressingly long.\textsuperscript{137} Prolonging voir dires into the admissibility of expert testimony could aggravate those backlogs.

IV. AN EVALUATION OF THE POSSIBLE MODELS OF THE SCOPE OF VOIR DIRE EXAMINATION IN TERMS OF THE PERTINENT POLICY CONSIDERATIONS

Having identified the general policy factors which should determine the scope of voir dire examination, we turn to an evaluation of the possible specific models of the scope of voir dire examination. At the polar extremes are a broad view, which authorizes the judge to consider any evidence at all logically relevant to the credibility of the proponent's foundational testimony, and several variations of a narrow view, which perhaps strictly confines the opponent to testimony that can be elicited from the proponent's own witnesses. The final part of this section considers a compromise view: limiting the trial judge to the consideration of evidence of relatively direct relevance to the credibility of the proponent's evidence and even that type of evidence only when there is a lively dispute over that credibility.

\textsuperscript{134} See 1 Weinstein's Federal Evidence § 104.11[3], at 104-16 n.9 (2d ed. 2000) (citing United States v. Leight, 818 F.2d 1297, 1303-04 (7th Cir.), cert. denied, 484 U.S. 958 (1987)).

\textsuperscript{135} See Imwinkelried, supra note 11, at 61.


A. The Broad View that During the Voir Dire, the Trial Judge Should Permit the Opponent to Submit any Testimony Logically Relevant to the Credibility of the Proponent's Foundational Testimony

Even this view would stop short of reinstating the English practice that empowered the trial judge to decide all the factual questions conditioning the admissibility of testimony. Under that practice, the judge resolved even the conditional relevance questions now governed by Federal Rule 104(b). In contrast, this view is a proposal for the scope of the voir dire examination that the opponent is generally entitled to conduct under Rule 104(a). Thus, even this view would not allow the trial judge to finally decide conditional relevance issues.

At least at first blush, there seems to be a strong statutory construction case for the broad view. The starting point for the case is the wording of Federal Rule of Evidence 402. In pertinent part, that statute reads: "All relevant evidence is admissible, except as otherwise provided by the Constitution of the United States, by Act of Congress, by these rules, or by other rules prescribed by the Supreme Court pursuant to statutory authority."138 The text of the statute makes no mention of case or decisional law. The Federal Rules took effect in 1975. In 1978, the Reporter for the Federal Rules Advisory Committee, the late Professor Edward Cleary, released an oft-cited law review article discussing the interpretation of the Rules. In that article, Professor Cleary declared: "In principle, under the Federal Rules no common law of evidence remains."139 In a mid-1980s decision, the United States Supreme Court approvingly quoted that passage.140 The Court did so again in 1993 in the course of its opinion in Daubert.141 The Court relied on Rule 402 as the cornerstone for its conclusion that the adoption of the Federal Rules of Evidence impliedly overturned the traditional, common-law rule requiring the proponent of scientific evidence to demonstrate that the evidence rested on a generally accepted scientific theory or technique.142 The Daubert Court could not find any statutory language in the Federal Rules which could reasonably bear the interpretation that Congress intended to preserve the common-law standard intact. Under Rule 402, that omission sufficed to

138. FED. R. EVID. 402.
142. See id. at 587.
"supersede[]" the common-law Frye test. 143

An advocate of the broad view of voir dire might argue by analogy that whatever the common-law limitations on the scope of voir dire might have been, Rule 402 invalidated those limitations, just as it overturned the general acceptance test. However, that argument misconceives the function of Rule 402. Rule 402 is indeed designed to abolish uncodified substantive evidentiary restrictions. 144 However, the issue of the scope of voir dire under Rule 104(a) is essentially procedural. The Federal Rules of Evidence are silent on many procedural questions related to the administration of substantive evidentiary rules. For example, the Rules contain no provision prescribing the scope of a case-in-chief, a rebuttal case, redirect, or recross. The Supreme Court has recognized that the Federal Rules do not prescribe a complete set of procedural rules for applying substantive evidence law. In Beech Aircraft Corp. v. Rainey, 145 the question presented was whether the common-law rule of completeness had survived the adoption of the Federal Rules. This common-law rule provides that after the proponent introduces part of an item of evidence such as a letter during one examination of a witness such as direct, on the next phase of examination, such as cross, the opponent may introduce other relevant parts of the same item. 146 Federal Rule of Evidence 106 sets out a very different version of the rule, entitling the opponent to force the proponent to introduce the part favoring the opponent when the introduction of only the part favoring the proponent might mislead the jury. 147 The question arose whether Rule 106 impliedly abolished the common-law completeness rule. The Court concluded that the Federal Rules were not intended to function as a self-contained set of procedural rules. The Court, therefore, ruled that the common-law procedure had survived the enactment of the Federal Rules.

In the final analysis, the question of what evidence the judge may receive during a Rule 104(a) voir dire is a procedural scope issue rather than one of substantive evidentiary doctrine. When the proponent objects to the opponent's attempt to introduce testimony attacking the

143. Id. at 588.
146. See 1 MCCORMICK, EVIDENCE § 32.
147. FED. R. EVID. 106; see also 1 MCCORMICK, EVIDENCE § 32.
credibility of the proponent's foundation, the proponent is not invoking
a substantive evidentiary doctrine such as hearsay or best evidence. Therefore, Rule 402 is inapposite. Rather, as at common law, the judiciary is free to shape the scope of a Rule 104(a) voir dire in light of the relevant policy considerations.

Those considerations counsel against embracing the broadest view of the scope of voir dire examination. To begin with, much of the testimony admissible in open court to attack the weight of the proponent's scientific evidence will have minimal probative value during the voir dire inquiry. In open court in the jury's hearing, the opponent's best attack is often that the proponent has not used the very best technique which modern science has to offer. By way of example, when the prosecution's forensic expert has employed a conventional optical microscope with a maximum magnification of 2000 times, the defense can point out that the expert neglected to use a scanning electron microscope (SEM) with magnifications exceeding 200,000 times. The defense can argue that there is lingering reasonable doubt in the case because the proponent's expert did not capitalize on the state of the scientific art. However, at the admissibility stage "[t]he test of admissibility is not whether a particular scientific opinion has the best foundation, or even whether the opinion is supported by the best methodology . . . ." Rather, the dispositive question is whether the proponent has presented enough testimony to persuade the judge by a preponderance of the foundational testimony that the proponent's expert's reasoning rests on sound methodology.

The probative value of the opponent's testimony proffered to attack the credibility of the proponent's foundation may be particularly negligible when the state of the record does not present a classic swearing contest. At some adjudicative hearings, there is little or no dispute over the witnesses' credibility. As a practical matter, the testimony about the underlying facts may be undisputed.

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148. Indeed, the proponent cannot do so. The final sentence of Rule 104(a) reads: "In making its determination [the trial court] is not bound by the [substantive] rules of evidence except those with respect to privileges." FED. R. EVID. 104(a).


150. See Id. at § 10-8, at 300.

151. In re TMI Litigation, 193 F.3d 613, 665 (3rd Cir. 1999).


153. See RONALD L. CARLSON & EDWARD J. IMWINKELRIED, DYNAMICS OF TRIAL
example, at a *Daubert* hearing, the opponent might virtually concede the truthfulness of the proponent's expert's testimony about her research but contend that the opponent's expert's testimony about a separate research project overpowers the proponent's testimony.\(^{154}\) *Daubert* is a case in point. In that case, the plaintiff relied in part on a reanalysis of epidemiological data. The defense did not respond by claiming that the plaintiff's expert was lying. Rather, the defense countered that thirty published epidemiological studies had reached a contrary finding.\(^{155}\)

Worse still, the broad view poses the countervailing dangers, identified in Section III, to the nth degree. Under the broad view, during voir dire the opponent would be entitled to submit to the trial judge virtually any evidence that could be received in open court in the jury's hearing.\(^{156}\) At the admissibility stage, the trial judge could hear every iota of the testimony later submissible to the jury. That practice not only maximizes the danger that the judge will supplant the jury's factfinding function; in some cases, it would also result in an admissibility hearing every bit as drawn out as the portion of the trial on the merits devoted to the consideration of the scientific testimony. In sum, on balance the broad view is unacceptable.

**B. Narrow Views of the Scope of Voir Dire Examination Under Rule 104(a)**

There are several conceivable formulations of a narrow view of the scope of voir dire. For example, a court inclined to constrict voir dire might announce that its scope is limited in any of the following fashions: the opponent may present only testimony that specifically contradicts the face of the proponent's foundational testimony; the opponent may not present testimony about any factor that the jury is capable of assessing during the trial on the merits in open court; the opponent may present only testimony that is relevant solely to the admissibility of the proponent's evidence and not to its weight; the opponent is restricted to


\(^{156}\) In truth, the opponent would be entitled to present more evidence to the judge than the opponent could submit to the jury in open court. The final sentence of Rule 104(a) states that the technical exclusionary rules such as hearsay are inapplicable to foundational testimony. See *Fed. R. Evid. 104(a)*; *State v. Cardone*, 368 A.2d 952, 955 (N.J. Super. Ct. App. Div. 1976).
"intrinsic" impeachment, that is, impeaching facts which the opponent can elicit during cross-examination of the proponent's expert; or the opponent may introduce impeachment relevant to the merits of the scientific issue but may not resort to *ad hominem* impeachment techniques such as cross-examination about the witness's prior untruthful conduct. Each of these formulations would promote the countervailing policies mentioned in Section III; but on scrutiny, conceived as a hard-and-fast limitation on the scope of voir dire, each formulation is badly flawed.

1. The Opponent May Present Only Testimony Which Specifically Contradicts the Face of the Proponent's Foundational Testimony

Suppose that after the plaintiff proponent called one researcher as an expert witness to vouch for a new medical causation theory, the defendant called another expert who had participated in the same research project. By virtue of this view, the defendant could elicit its expert's testimony differently describing the underlying data or reporting different findings. However, under this view the defendant could not go beyond the face of the proponent's testimony by showing that the proponent's witness had a directly relevant bias. Assume that in the instant case, the expert did not use a pre-existing scientific methodology or technique to evaluate the facts in the pending case; rather, the attorney calling the expert hired the expert to develop the scientific technique in question specifically for purposes of the litigation. This view would bar inquiry about even that powerful source of bias. The view suffers both as a matter of statutory construction and as a matter of policy.

The statutory interpretation case against this view is persuasive. If the opponent cannot go behind the proponent's testimony with rebuttal testimony attacking its credibility, in effect a Rule 104(a) hearing becomes a Rule 104(b) hearing. In a Rule 104(b) hearing on a conditional relevance issue, the judge accepts the proponent's foundational testimony at face value. The Supreme Court acknowledged the limited nature of the judicial inquiry under Rule 104(b) in *Huddleston*. The Court stated that Rule 104(b) precludes

157. See Fed. R. Evid. 608(b).
159. See Imwinkelried, supra note 11, at 64-65.
the trial judge from weighing the credibility of the testimony. By restricting the opponent to testimony specifically contradicting the face of the proponent's testimony, this view of the scope of Rule 104(a) voir dire confines the judge to the face of the testimony. It is hard to believe that Congress contemplated the same mode of analysis under Rule 104(a). When the Supreme Court initially revisited Daubert in General Electric Co. v. Joiner, the Court asserted that the trial judge need not accept "the ipse dixit of the expert." It is difficult, if not impossible, to square that assertion with any view confining the judge to an analysis of the face of the foundational testimony.

This view also suffers from a policy perspective. If the opponent and judge are confined to the face of the foundational testimony, the judge will be deprived of the information needed to intelligently resolve a true swearing contest between the experts. The judge needs an independent basis for preferring one witness's facially sufficient testimony over similar testimony by another witness when the opposing witnesses are equally well credentialed. If the opponent cannot furnish the judge with the information needed to go beyond the face of the foundational testimony, the judge will be forced to make an arbitrary decision: either the judge will have to admit the evidence because, as under Rule 104(b), the face of the proponent's foundational testimony creates a permissive inference that the opinion rests on sound methodology, or the judge will have to exclude the proponent's evidence whenever the opponent presents more foundational testimony than the proponent. If the judge is strictly limited to the face of the foundational testimony, those are the only options open to the judge. The judge will be denied the information necessary to make a true, informed credibility determination. The second option is especially offensive. If the opponent is entitled to prevail whenever he or she submits more foundational testimony, the admissibility rules will be skewed in favor of the wealthy. Expert testimony can be quite expensive. In a given case, there might be a huge disparity in economic resources between the litigants. If the judge cannot critically evaluate the quality and

161. See id.
163. Id. at 146.
credibility of the foundational testimony, by default the judge might be forced to rely on the quantity of the testimony. If the admissibility ruling is made to turn on the quantum of evidence presented by the litigants, the admissibility standard will systemically disadvantage those who have difficulty affording experts. By skewing the admissibility standard, this narrow view would increase the probability that only the affluent will be able to afford justice

2. The Opponent May Not Present Testimony About Any Factor Which the Jury is Capable of Assessing During the Trial on the Merits in Open Court

Like the first formulation of a narrow view, this view has a superficial attractiveness. This view seems to secure the jury's independent factfinding role by precluding the judge at the admissibility stage from considering any testimony about factors which the jury is competent to evaluate during the trial on the merits. However, this view rests on a misunderstanding of the boundary between Rules 104(a) and 104(b); and if adopted, this view would preclude the judge from considering virtually any foundational rebuttal testimony from the opponent.

Revisit the earlier analysis of privilege questions decided under Rule 104(a). Assume again that a litigant makes a privilege objection and the record develops that the objection turns on the question of whether the client realized that a third party outsider was standing within easy earshot. All jurisdictions assign the resolution of that question to the judge. However, the issue is not allocated to the judge because the jury is incapable of intelligently deciding that question. Quite to the contrary, "[n]o one doubts the jury's competence to decide whether a person was physically present when the attorney and client conversed; the issue of a person's presence at a particular time and place is a simple, straightforward question that jurors can easily resolve." There is nothing particularly arcane or esoteric about the question. We assign the question to the judge for an altogether different reason: the fear that having been exposed to the foundational testimony about the contents of the privileged statement and the surrounding circumstances, the jury would find it difficult to later ignore the statement if they found the statement to be technically privileged and inadmissible.

167. Imwinkelried, supra note 59, at 617.
If the courts applied this narrow view to the foundation for scientific evidence, they would deny the judge a wide range of necessary information. It is true that there have been relatively few studies of the competence of lay jurors to critically gauge expert testimony, but for the most part the available data indicates that jurors are up to the task. In *Daubert*, the Supreme Court voiced its confidence in the general ability of the jury to decide how much weight to attach to scientific testimony. Under this narrow view, if the judge concludes that the jury is competent to evaluate the testimony about a particular facet of the scientific technique in question, the judge could not consider the testimony in ruling on admissibility. Assuming that the jury is able to analyze the testimony related to most aspects of the alleged scientific merit of a technique, the judge would be precluded from weighing the testimony. The net result would be to cripple the judge's factfinding under Rule 104(a).

3. The Opponent May Present Only Testimony Which is Relevant Solely to the Admissibility of the Proponent's Testimony and Not to its Weight

In the case of some items of proffered evidence, there will be a clearcut, discernible difference between the testimony relevant to its admissibility and the testimony pertinent to its weight. Consider, for example, the privilege hypothetical. In that case, the admissibility of the allegedly privileged statement will depend on whether there was physical privacy at the time of the communication between the client and attorney. If there was privacy, the privilege can attach and render the statement inadmissible. However, in most cases the presence or absence of the third party has no impact on either the truthfulness or


170. There are cases in which the declarant's realization that he or she is speaking in public will affect the reliability of the statement. For example, part of the rationale for the declaration against interest hearsay exception is that the declarant would not reveal the statement unless he or she believed it to be true. *See 2 MCCORMICK, EVIDENCE Ch. 33.* The realization that he or she is making a public assertion is also a contributing factor to the rationale for admitting documents under the official record hearsay exception. *See 5 J. WIGMORE, EVIDENCE § 1632* (Chadbourn rev. 1974).
Applying the proposed narrow view, the judge could consider the testimony about the third party's presence; that testimony would be logically relevant to the admissibility of the testimony but not to its weight.

However, in the case of many other foundations, including the foundation for scientific evidence, that distinction will prove to be unworkable. The testimony submitted to the judge under Daubert because it is relevant to admissibility will also be logically relevant to the weight of the testimony, if admitted. In Daubert, the Court provided trial judges with a list of the factors which inter alia the judges should consider in determining the admissibility of proffered scientific testimony: whether the underlying hypothesis is empirically testable, whether it has been tested, whether the hypothesis has been subjected to peer review and publication, whether the technique has a known or potential error rate, whether there are standards controlling the technique's operation, and whether the hypothesis enjoys general acceptance in the pertinent specialty fields. All of those factors are obviously relevant to the weight of the testimony. Hence, even if a judge decided to admit testimony about a scientific technique despite a 15% margin of error, the opponent would certainly be entitled to establish the error margin in an attempt to convince the jury to attach less weight to the testimony. The upshot is that the application of this formulation of the narrow view to a foundation for scientific evidence would be disastrous. Since almost all the evidence relevant to admissibility under Daubert would also be relevant to the weight of the testimony, the judge would be left with virtually no basis for making an informed admissibility decision.

171. See Carlson & Imwinkelried, supra note 153, § 7.2(F), at 131.

172. See Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 593 (1993) (the Court expressly stated that the list was not "a definitive checklist").

173. See id. at 593-94.

174. Under the Daubert test, general acceptance is demoted from the status of a test in and of itself to being a mere factor in evaluating the empirical validation of the hypothesis. If the hypothesis has gained general acceptance, that is circumstantial evidence that experts in the field have studied the underlying methodology and found it to be satisfactory. Id.

175. See generally Imwinkelried, supra note 149, at Ch. 10.
4. The Opponent Is Restricted to "Intrinsic" Impeachment, That is, Impeaching Facts Which the Opponent Can Elicit During Cross-Examination of the Proponent's Expert

The common law of evidence distinguished between "intrinsic" and "extrinsic" impeachment. When the opponent was limited to "intrinsic" impeachment, the opponent was restricted to testimony which he or she could elicit during the cross-examination of the proponent's witness. If only "intrinsic" impeachment were permissible, the opponent had to "take the witness's answer"; after the witness was excused from the stand, the opponent could not call another witness or present documentary evidence to contradict the prior witness's answer. In contrast, if "extrinsic" impeachment was allowed, at a later point in the trial the opponent could present another witness or introduce other evidence to attack the earlier witness's credibility. As previously stated, one of the policy concerns relevant to the scope of voir dire is preventing the opponent from converting the admissibility hearing into a full trial. It would certainly promote that policy to confine the opponent during voir dire to intrinsic impeachment. Suppose that the opponent's foundational testimony was not relevant to the scientific merit of the technique but was relevant only to impeaching the credibility of the proponent's foundation. In that event, this view would restrict the opponent to cross-examination of the proponent's witness; no matter how the proponent's witness responded, the opponent could not later offer rebuttal testimony during the voir dire. The opponent would have to wait until the trial in open court to offer such testimony.

Of the formulations considered to date, this version of the narrow view has the most plausibility. However, even this view is of dubious wisdom because it will often result in forcing the trial judge to make the credibility determination on an inferior basis. Consider several hypothetical applications of this formulation. If the opponent is restricted to "intrinsic" impeachment, the opponent could probably attack the witness's credibility by pointing to his or her demeanor during cross-examination; but the opponent could not offer extrinsic

176. See 1 McCormick, Evidence § 36.
177. See id. § 41.
178. See id. § 36.
179. See 1 Weinstein's Federal Evidence § 104.11[43], at 104-16 n.9 (2d ed. 2000).
180. See id. § 104.16[4][b], at 104-58 n.39 (citing Precision Piping & Instruments, Inc. v. E. I. du Pont de Nemours & Co., 951 F.2d 613, 621 (4th Cir. 1991)).
evidence establishing the witness's bias. However, the most recent psychological research indicates that a witness's demeanor on the stand can be so idiosyncratic that it is often an unreliable indicator of the witness's truthfulness. Extensive psychological research documents that bias, including subconscious attitudes, can have a tremendously distorting impact on a witness's trial testimony. In *Davis v. Alaska*, the Supreme Court indicated that in its opinion, bias is especially probative of a witness's credibility. Extrinsic evidence of the witness's bias might be far more probative than the witness's demeanor intrinsic to cross-examination.

Consider another illustration. If the opponent is strictly limited to "intrinsic" impeachment, the opponent could conceivably be restricted to exploring inconsistencies between passages in the witness's trial testimony—a statement on direct and another statement made on cross. However, extrinsic evidence of a statement the witness made pretrial during the research project could be of greater significance. Further, when the pretrial statement had been reduced to writing such as an entry in the researcher's notebook, its consideration would require little additional expenditure of court time even if the witness denied making the statement. The foundation to authenticate the entry could be short, requiring little court time. In this hypothetical, enforcing a rigid restriction to "intrinsic" impeachment would deprive the judge of highly probative information which impinged to only a minimal extent on the policy of judicial economy.

5. The Opponent May Use Impeachment Techniques Relevant to the Merits of the Scientific Issue But May Not Resort to *Ad Hominem* Impeachment Techniques

While impeachment evidence is sometimes classified on the basis of whether it is "intrinsic" or "extrinsic" to the cross-examination of the witness to be impeached, impeachment techniques can be roughly

181. See Jeremy A. Blumenthal, *A Wipe of the Hands, a Lick of the Lips: The Validity of Demeanor Evidence in Assessing Witness Credibility*, 72 Neb. L. Rev. 1157, 1204 (1994); Olin Guy Wellborn III, *Demeanor*, 76 Cornell L. Rev. 1075 (1991); *see also* *In re Cudjo*, 977 P.2d 66, 75 (Cal. 1999) ("Observing the demeanor of an expert is generally of little or no benefit in evaluating the persuasive value of the expert's opinion testimony").
categorized on another basis. According to this categorization, some impeachment techniques are *ad hominem* attacks on the witness while other impeachment techniques have a more direct bearing on the credibility of the particular testimony given by the witness in the case. For example, for impeachment, the opponent can show that the proponent's witness suffers from a mental illness which generally impairs the caliber of the witness's memory. The impeachment is *ad hominem*; the target is the witness himself or herself, and proof of a generalized memory deficiency would probably be relevant regardless of the content of the witness's testimony in the pending case. However, proof of a prior inconsistent statement "focus[es] on the witness's testimony rather than the witness's personal background." In the Third Circuit case mentioned in the Introduction, Judge Becker may have had this distinction in mind when he wrote that the majority "confuses the reliability of an expert witness—a matter for the jury—with the reliability of his or her methodology—a matter initially for the trial judge." If the policy objective is to arm the trial judge with the information needed to make an intelligent 104(a) ruling while respecting the jurors' province to evaluate the witness's credibility, this proposed distinction is appealing. By permitting impeachment relevant to the witness's specific testimony in the instant case, this formulation would provide the judge with the requisite information; and by banning *ad hominem* impeachment, this formulation would help protect the jury's prerogative from judicial intrusion.

Although the basic thrust of this distinction is sensible, the distinction can become blurry, and even this distinction cannot be enforced as a full-fledged rule of law. As a general proposition, proof of a witness's sensory or mental defect might have minimal bearing on the witness's testimony in the pending case. However, suppose that the witness's research entailed the use of color change tests such as the Duquesnois-Levine method of identifying unknown drugs. In that

187. See id. at 421.
188. Id. at 365.
190. See 1 MCCORMICK, EVIDENCE § 44.
setting, proof of the witness's color blindness could raise grave questions about the accuracy of the witness's research observations. Again, proof of a witness's untruthful conduct or prior conviction would ordinarily be classic examples of purely *ad hominem* attacks on the witness's believability. Suppose, though, that the conduct amounted to fraud in a phase of the very research project the witness relies on to validate his or her hypothesis. Proof of that type of misconduct has more than passing relevance to the question of whether the witness conducted the research with sound scientific methodology. In the case of the impeachment technique of prior inconsistent statement, the common-law courts developed the collateral fact rule to identify statements which were relevant enough to the facts of the case to justify the receipt of extrinsic impeaching evidence. The extrinsic evidence was admissible if the prior statement relates to an important, "non-collateral" issue while the evidence was excluded when its only relevance was to a "collateral" issue. However, in the final analysis, the common-law experiment with a collateral fact "rule" failed. The "mechanistic" application of the purported rule often frustrated the "pertinent policy considerations." The drafters of the California Evidence Code abandoned the doctrine as an "inflexible rule," and the federal drafters arguably followed suit.

C. The Compromise View that as a General Norm, When There is a Genuine Credibility Dispute, the Opponent May Introduce Impeaching Evidence That Has Relatively Direct Relevance to the Dispute

Rather than attempting to regulate the scope of voir dire by "inflexible rule," it would make more sense to announce a general norm, giving the trial judge flexibility to adjust the scope to the policies implicated by the specific facts of the case. In *Joiner*, the Supreme Court stated that the trial judge has discretion in applying the factors

192. See 1 MCCORMICK, EVIDENCE § 41.
193. See Id. § 42.
194. See Id. § 49.
195. See Id.
196. See Id.
197. 1 MCCORMICK, EVIDENCE § 49, at 78.
198. Id.
which *Daubert* mentioned as being relevant to assessing the foundation for scientific evidence.\(^{201}\) In *Kumho*, the Court granted the trial judiciary another type of discretion.\(^{202}\) There the Court held that when the challenge is evaluating the admissibility of non-scientific testimony, the trial judge has "considerable leeway in... identifying the specific factors [which are] reasonable measures of the reliability of" the proffered testimony.\(^{203}\) The proposed compromise view would accord trial judges still a third kind of discretion, namely, over the scope of the voir dire examination conducted under Rule 104(a).

During voir dire, before allowing the opponent to introduce testimony impeaching the proponent's foundational testimony, the trial judge should exercise his or her discretion in determining both that there is a lively dispute over credibility and that the proffered testimony has relatively direct relevance to the credibility dispute.

1. A Genuine Credibility Dispute

In this context, what does a "lively"\(^{204}\) or genuine credibility dispute denote? In some cases, even though there is a pitched battle over the admissibility of the proponent's scientific evidence, the battle does not pose any credibility questions for the judge. Suppose that without questioning the data relied on by the proponent's expert, the opponent calls other experts who used a different scientific method yielding contrary results. For instance, while the proponent's expert based his opinion on animal studies, the opponent's expert might rely on an epidemiological analysis pointing to a different conclusion. In this state of the record, the judge must decide the extent to which the opponent's foundational testimony undermines the inference that the proponent's expert used sound scientific methodology. However, given the nature of the opponent's attack, there is little need for the judge to consider any testimony relevant to the sincerity or perceptual ability of the proponent's expert. In a formal sense, the expert's credibility comes into issue as soon as the witness gives any testimony in the case.\(^{205}\) However, in this variation of the hypothetical, in a realistic sense the witness's credibility is not a meaningful issue.\(^{206}\)


\(^{203}\) *Id.* at 152.


\(^{205}\) See 1 MCCORMICK, EVIDENCE § 33, at 122.

Suppose, however, that during the voir dire the opponent calls another member of the research team which generated the very data the proponent's expert is relying on. The opponent's expert not only testifies to different underlying data but also draws diametrically opposed inferences from the research data. Here the opponent's submission creates a genuine credibility dispute. The testimony of the proponent's expert is at loggerheads with the testimony of the opponent's expert. One of the witnesses is either lying or mistaken. If the judge is to avoid ruling on an essentially arbitrary basis, the judge must be able to go beyond the face of the testimony describing the research data and findings. Credibility evidence would serve as a rational basis for resolving this dispute. Faced with a true credibility dispute, the judge has an acute need for evidence speaking directly to credibility.

2. Evidence of Relatively Direct Relevance to the Credibility Dispute

However, given the countervailing policies of judicial economy and protecting the jury's factfinding role, even when there is a lively credibility dispute the judge should not permit the opponent to introduce any and all evidence logically relevant to the credibility of the proponent's foundation. The instinct of the final possible narrow view, limiting the opponent to testimony bearing on the scientific merit of the proponent's hypothesis, is a good one. Given the interests in judicial economy and protecting the jury's prerogatives, the trial judge ought to allow the opponent to introduce credibility evidence during voir dire only when the evidence has great probative value on the credibility dispute. Given that norm, apart from the witness's credentials, what types of evidence should the judge consider, and which should the judge bar?

To begin with, the judge may certainly consider the demeanor of the proponent's witness while he or she is testifying about the foundational element in question. Although demeanor is sometimes not a reliable indicator of truthfulness or objective truth, demeanor is relevant. Moreover, since the proponent's witness has already testified, the judge's consideration of this factor does not necessitate the devotion of any additional court time to the presentation of testimony by the opponent. For that matter, the judge ought to be permitted to consider the entirety of the proponent's witness's demeanor during his or her foundational testimony. The contrast between the witness's demeanor
during the *Daubert* testimony with the demeanor during other parts of the testimony might give the judge some helpful insight into the witness's level of confidence on the *Daubert* topic. All that testimony with the accompanying demeanor has already been presented, and it does not impinge on the policy of judicial economy to permit the judge to consider the witness's complete demeanor.

In addition, the judge may weigh the internal consistency of the witness's foundational testimony. Are there inconsistencies between different passages in the witness's direct testimony or between the direct and the cross? If the proponent's witness's testimony was consistent but the opponent's witness's testimony was marred by several inconsistencies, the judge would have a solid basis for preferring the former testimony over the latter.

Next, taking a step beyond the internal consistency of the trial testimony, the judge ought to be able to consider some prior inconsistent statements by the witness. At common law and under the Federal Rules of Evidence, the standard for inconsistency is relaxed. The prior statement need not be diametrically opposed to the witness's trial testimony. The earlier statement need merely "bend in a different direction." That lax standard would be inappropriate as the test for introducing an inconsistent statement during voir dire examination. It would be sounder to insist that the prior statement flatly contradict the witness's foundational testimony. Under the traditional standard, a witness's mere failure to mention a fact on a prior occasion can be treated as a prior inconsistent statement. It is true that even without more, such a failure could be logically relevant to a witness's credibility, but it seems to possess so little probative value that

207. See Edward J. Imwinkelried, *Demeanor Impeachment: Law and Tactics*, 9 AM. J. TRIAL ADVOC. 183, 191 (1985) ("While demeanor is admittedly a fallible guide to the witness's state of mind, the general consensus is that the witness's demeanor is a valuable clue to his state of mind. 'For unnumbered ages the external appearance has been deemed to be an index to the internal man . . . .' Modernly, intelligent persons still consider demeanor in conducting ordinary, everyday affairs and business").


a mere failure should not be provable during voir dire.

What about a witness's bias? Bias evidence can vary greatly in the degree of its probative worth. Like the traditional standard for inconsistency, both at common law and under the Federal Rules the courts "have been hospitable to the point of liberality in admitting evidence relevant to a witness' bias."211 The same liberality should not obtain during voir dire examination. At the trial on the merits in most jurisdictions, the opponent would be entitled to establish that in the past, the witness had been employed by other similarly situated attorneys such as other members of the plaintiffs' bar.212 There is an inference of bias, but the inference is weak at best. Similarly, if the attorney paid the expert to use a pre-existing scientific technique such as gas chromatograph/mass spectrometry (GC/MS), the payment is provable during the trial on the merits. Here again, the inference of bias is hardly overpowering. After all, while experts occasionally donate their services pro bono, in the vast majority of cases experts expect and receive compensation. Contrast the extreme situation in which the attorney has hired the expert to conduct the original research needed to validate the technique to satisfy Daubert. Now the nexus between the bias and the foundational testimony is much stronger. In this situation, in Frye jurisdictions a number of courts went to the length of ruling the witness incompetent to establish the general acceptance of the technique.213 On remand in Daubert, Judge Kozinski wrote:

One very significant factor to be considered is whether the experts are proposing to testify about matters growing naturally and directly out of research they have conducted independent of the litigation, or whether they have developed their opinions expressly for purposes of testifying. [I]n determining whether proposed expert testimony amounts to good science, we may not ignore the fact that a scientist's normal workplace is the lab or the field, not the courtroom or the lawyer's office.214

211. United States v. Akitoye, 923 F.2d 221, 223 (1st Cir. 1991).
In this situation, the bias evidence possesses the type of direct relevance to the Daubert foundation that would warrant the receipt of the evidence during the voir dire.

Finally, consider evidence of the witness's untruthful conduct. Under Federal Rule of Evidence 608(b), a cross-examiner may inquire about such behavior even if it has not yet resulted in a conviction. However, as in the case of both inconsistent statements and bias evidence, there are gradations. Rule 608(b) would permit the cross-examiner to ask about an untruthful act such as a fraudulent workers' compensation claim. However, the claim has nothing to do with the subject-matter of the witness's Daubert testimony, and it would be an abuse of the judge's discretion to permit that inquiry during the voir dire. What if the witness was guilty of fraud in the administration of the funds for another scientific research project? Such fraud is certainly fair game under Rule 608(b), but even this species of fraud would have a tenuous connection to the Daubert foundation in the instant case. However, it would be a completely different matter if the witness had perpetrated fraud in an earlier phase of the research project which the witness described in the foundational testimony. Now there is a direct enough connection between the untruthful conduct and the foundational testimony that the judge would be justified in permitting the opponent to cross-examine the proponent's witness about the conduct.

V. CONCLUSION

Justice Holmes observed that the law is constantly drawing lines and that "on exact scrutiny" the lines almost always prove "to [be] debatable." I am certain that many of the lines I have proposed in this article will prove to be at the very least "debatable." However, given the growing use of expert testimony at trial, it is imperative that we begin talking about the lines that should be drawn during Daubert voir dires under Federal Rule of Evidence 104(a). For decades, the courts, as well as the commentators, have neglected the procedural issue of the proper scope of voir dire examination in support of an evidentiary objection. However, the rendition of the Daubert decision has

215. FED. R. EVID. 608(b).
216. See W. BROAD & N. WADE, BETRAYERS OF THE TRUTH 83 (1983) (according to the Food and Drug Administration, "perhaps as many as ten percent [of the clinical researchers in the United States] do something less than [honest research]").
necessitated so many Rule 104(a) hearings that the neglect is no longer tolerable. On the one hand, since the judge is supposed to act as a factfinder at these hearings, the judge will sometimes need the benefit of credibility evidence. If the judge confines his or her analysis to the face of the foundational testimony submitted by both sides, the judge will be forced to make an essentially arbitrary decision. When the opponent's foundational testimony flatly contradicts the proponent's, the contradiction creates a genuine credibility dispute, and the judge must go beyond the face of the testimony to intelligently resolve the dispute. On the other hand, to uphold the interest in judicial economy and safeguard the jury's factfinding role, the courts must draw lines, sharply limiting the types of credibility information admissible during the voir dire. At the trial on the merits, the courts use relaxed standards for receiving prior inconsistent statements, permitting proof of bias, and allowing cross-examination about untruthful acts. Those lax standards are inappropriate for voir dire. During voir dire, the trial judge should confine the opponent to credibility evidence with greater probative value—evidence that possesses relatively direct relevance to the credibility dispute.

As Professor Stephen Saltzburg has noted, there has long been a trend in American law to expand the role of the judiciary at the expense of the trial jury. At early American law, the jurors had the power to determine the law as well as the facts. Today they have lost that power in almost all states and federal court. Furthermore, the Supreme Court has strengthened the trial judiciary's power to grant summary judgment and thereby deny the plaintiff an opportunity to submit his or her case to the jury. The preservation of the role of the jury as a democratic institution is one of the major stakes in the emerging controversy over the proper scope of the Daubert voir dire under Rule 104(a). The objective must be to give trial judges adequate

218. See Salzburg, supra note 57, at 271.
factfinding power to make them effective *Daubert* gatekeepers while keeping the spirit of Jacksonian democracy alive in American courtrooms.