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E' Is for Eclectic: Multiple Perspectives on Evidence (Symposium: New Perspectives on Evidence)

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"E" IS FOR ECLECTIC: MULTIPLE PERSPECTIVES ON EVIDENCE

Richard D. Friedman*

INTRODUCTION

A conference titled "New Perspectives on Evidence: Experts, Empirical Study and Economics" has a pronounced alliterative theme, a theme made even more apparent when, inevitably in evidentiary discourse, epistemological questions come to the fore. It is enough to make one suspect that the conference is secretly brought to you by the letter "E," hiding behind its public front, the Olin Foundation. Putting aside such conspiratorial thoughts, all these "E's" suggest the presence of a meta-"E"—Eclecticism. Indeed, I believe this conference has demonstrated the need for an eclectic approach to evidentiary problems.

That should be no surprise. The domain of evidentiary law and discourse is determined not by a given intellectual approach but—to the extent it is determined at all—by a set of problems, central among which is the question of what kinds of information ought to be presented to an adjudicative factfinder. One trying to provide sensible, useful analysis of an evidentiary problem acts at her peril if she ignores any available source of wisdom and guidance.

One consequence of eclecticism is that we do not have to worry about boundaries very much at all. Does a particular line of reasoning qualify as economic?¹ It does not particularly matter; however the line may be characterized, if the reasoning advances analysis, that is all to the good.

For expository convenience, though, I will discuss separately three "E"-perspectives that are important in this symposium: em-

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¹ For example, at the symposium Professor Richard Lempert and Judge Richard A. Posner debated whether the "veil of ignorance" associated with John Rawls is an economic concept. See Richard Lempert, The Economic Analysis of Evidence Law: Common Sense on Stilts, 87 Va. L. Rev. 1619, 1665-66 (2001) (discussing Rawlsian "veil of ignorance" analysis as a noneconomic argument). In general, I believe Lempert may take too narrow a view of what constitutes an economic argument, but little or nothing depends on the definitional matter.
Piricism, economics, and epistemology. Eclecticism means that multiple perspectives on evidentiary problems may have something to offer. The other side of that coin is that no given perspective is a panacea; each one leaves work for others to do. I will discuss the value and limitations of each of these three perspectives. I will then focus on one particular "E"-problem that has been addressed in this symposium, that of expert evidence. I will suggest how each of these approaches—I do not mean to exclude others—can assist analysis and understanding of expert evidence, and I will focus on the core issue of the standard for admitting such evidence.

One substantive theme will run throughout many of my comments. I believe the proposition that some evidence must be excluded because the jury is likely to overvalue it has been given far too much credence in evidentiary discourse. Exclusion is not justified on the basis of overvaluation unless the jury so massively overvalues the evidence that considering the evidence leads it further away from, rather than closer to, the truth. In fact, the empirical evidence does not support the proposition that overvaluation is a significant phenomenon. I think we should try to construct evidence law without relying on an overvaluation rationale. In some situations, exclusionary rules may be justified on other grounds, such as the vindication of deep underlying values or the prospect that the evidence would bias the jury against a party (a factor altogether different from overvaluation). In other situations, exclusion is simply unjustified.

2 For example, Allen and Leiter say: "We may ask of any particular rule: Does it increase the likelihood that jurors will reach true beliefs about disputed matters of fact?" Ronald J. Allen & Brian Leiter, Naturalized Epistemology and the Law of Evidence, 87 Va. L. Rev. 1491, 1498 (2001). They acknowledge that this is not an appropriate question to ask of every rule, because some are meant "to carry out various policy objectives like reducing accidents and avoiding litigation." Id. My own view is that exclusion of evidence is only rarely justified on the ground that the evidence makes it more likely that jurors will reach untrue beliefs about disputed matters; to the extent that exclusion is justified, it is almost always on other grounds.

3 Thus, Allen and Leiter err when they say that "the worry that 'jurors [will] misuse certain types of evidence' is precisely the worry that they will misuse them by drawing inferences that lead to false beliefs." Id. at 1501 (alteration in original). In fact, jurors may misuse evidence by improperly allowing it to bias them—affecting the standard of persuasion that they apply—or by using it to draw inferences, perhaps accurate ones, about propositions that the law deems immaterial.
I. EMPIRICISM

I understand Professors Ronald J. Allen and Brian Leiter, in their argument for the application of "naturalized epistemology," to be advising us to take account of empirical knowledge in discussing evidentiary law.\(^4\) The advice is sound. Whether evidence should be admissible or not may often depend on considerations such as how a given set of factors will affect the accuracy of an out-of-court declarant or of an in-court witness; to what extent the evidence is likely to be used, or misused, by the jury or other factfinder; and to what extent alternative rules are likely to affect conduct (including the production of better evidence) that is of concern to the legal system. Too often evidentiary pronouncements sound like cracker-barrel psychology or sociology, made with little or no heed to accuracy.\(^5\) Who can dispute that evidentiary law should, where possible, be based upon sound perceptions of reality?

For illustrative purposes, I will highlight three areas in which I believe better empirical understanding can have significant benefits: the role of the jury, hearsay, and character evidence.

The paper by Professors Shari Seidman Diamond and Neil Vidmar in this symposium\(^6\) is a wonderful example of empirical research bearing on the conduct of the jury. Evidentiary rules forbid mention of liability insurance for the purpose of showing that a person acted wrongfully.\(^7\) The usual understanding has been that mention of liability insurance will encourage jurors to reach large damages awards, comfortable that they are digging deeply into the insurer's pockets rather than into those of the defendant. Given the prevalence of insurance, especially for liability in driving motor vehicles, and the easily-understood tendency of large judgments to increase insurance rates, there has long been reason to doubt that jurors really do act in this way. Now the actual jury deliberations

\(^4\) Id. at 1492-94.

\(^5\) See, e.g., Idaho v. Wright, 497 U.S. 805, 820 (1990) (accepting as sound the traditional justification for the "dying declaration" exception to the hearsay rule, the proposition that "[n]o person, who is immediately going into the presence of his Maker, will do so with a lie upon his lips") (quoting Queen v. Osnan, 15 Cox Crim. Cas. 1, 3 (Eng. N. Wales Cir. 1881) (Lush, L.J.)).


\(^7\) E.g., Fed. R. Evid. 411.
examined by Diamond and Vidmar provide substantial confirmation that jurors do not often play this sock-it-to-the-insurer game. At the same time, Diamond and Vidmar show that juries very often do talk about first-party insurance. The jurors’ concern is that the plaintiff may be “double dipping,” seeking damages to compensate them for the same expenses for which they already received health insurance proceeds. Plaintiffs, it appears, have much more to lose than do defendants from discussion of insurance.

Of course, jurors are right in that “double dipping” is precisely what plaintiffs are often doing—and the “collateral source” rule, for better or worse, allows them to do it. Now it will be interesting to see whether what Diamond and Vidmar call a “collaborative” instruction—attempting to explain to jurors why they are not supposed to make a reduction from their award to take presumed insurance proceeds into account—would have its intended impact. Could it, perversely, encourage jurors simply to focus more on insurance? More empirical work may be helpful here.

The article by Diamond and Vidmar is part of a large field study that promises further interesting results. Other types of empirical research offer benefits for evidentiary law and scholarship. For instance, much of the modern rhetoric of hearsay law emphasizes the supposed inability of the jury to take into account the defects of hearsay evidence. Experimental evidence suggests that jurors do indeed discount hearsay evidence—and indeed may tend to do so too much rather than too little. If such results turn out to be ro-
bust, they suggest that defenses of the hearsay rule should not rely on the perception of juror overvaluation; the exclusionary rule should be preserved only to the extent that it can be justified on other grounds.

Sometimes useful empirical knowledge can be gained by examining studies already performed in other disciplines. For example, Professor Guy Wellborn has forced us to reassess the value of demeanor in assessing credibility; thus, it appears that the inability of a jury to observe the declarant's demeanor while making an out-of-court statement may not be a very powerful reason to exclude hearsay testimony of that statement.

Similarly, various academic studies of criminal and other anti-social behaviors cast doubt on the received wisdom that the prior conduct of a person should be inadmissible to prove that the person acted in a given way on a particular occasion because the jury is likely to overvalue the evidence. In truth, deviant behavior on a past occasion does make it more likely that a person will act in a deviant way on another occasion; therefore, a juror giving such evidence substantial weight may be acting perfectly rationally in doing so. To the extent that it can be justified, the character evidence rule should rely on grounds other than the anticipation of juror overvaluation.

In short, the value of empirical perspectives cannot be seriously doubted. But we must recognize the limitations of such perspectives as well. I will mention three.

Making and the Evaluation of Hearsay Evidence, 76 Minn. L. Rev. 683, 693 (1992) (despite researchers' expectation that mock jurors would consider hearsay evidence "but then engage[] in some kind of discounting because they considered hearsay less reliable than eyewitness testimony," the mock jurors "simply did not report using the hearsay in their decision-making process").


Allen and Leiter speak highly of situationalist approaches to the problem of predicting behavior on the basis of past conduct. See Allen & Leiter, supra note 2, at 1546–49. I think they lean too hard on situationalism; even devout situationalists do not deny the importance of personality, and "interactionism," an intermediate approach focusing on both situation and personality, has received much of the recent scholarly attention. Friedman, supra, at 646.
First, and most obviously, not all propositions that we would like to test for the purposes of guiding evidence law can feasibly be tested empirically. Do dying persons really feel a strong sense of the necessity to tell the truth? I doubt a scholar could arrange a useful empirical study that would pass the scrutiny of a human subjects committee. Even if she could, the results would not necessarily be valid with respect to the particular application of interest to evidence law, in which the statement by the dying declarant concerns the cause of her own apparently impending death. 15

Second, though evidence scholars, including several of the participants in this symposium, have done some interesting and important empirical studies, we tend to be restrained from concentrating on empirical work by a variety of factors, relating to our training and professional incentives. 16 Perhaps this web of factors will change over the long run—in which we are all dead 17—but I doubt that before then it will change very much.

Third, and most interesting to me, empirical research cannot provide all the answers, because much of evidence law rests on values that would not be affected by, or at least are very robust with respect to, empirical findings. I will make this point in the three contexts I mentioned above: the role of the jury, hearsay, and character evidence.

At this conference, Professor Joseph Sanders posed a very interesting question: Suppose empirical evidence clearly demonstrated that judges are much better than juries at evaluating the merits of scientific evidence. How would such a demonstration affect the attitude of those who generally favor admissibility of such evidence? My own answer is a qualified one. If the jury truly were shown to be deficient in evaluating the evidence, that would be a factor we could not afford to overlook. To a significant extent, however, our use of the jury does not depend on our confidence in its abilities as

15 See, e.g., Fed. R. Evid. 804(b)(2).
17 See John Maynard Keynes, A Tract on Monetary Reform 80 (1923).
a factfinder. Rather, our commitment to the jury—which is expressed constitutionally—is in large part a political matter, reflecting a longstanding reliance on the jury as a bulwark against oppression by the state. If our attachment to the jury has diminished, at least in civil cases, I believe it is because we perceive less of a need for such a bulwark than the Framers did, not because we have learned of deficiencies in the jury’s ability to do its job.

Similar limitations on the role of empirical findings apply to hearsay. An empirical demonstration might reveal that much of the doctrine rests on faulty premises. But at the core of the doctrine lies a narrower exclusionary rule that should be largely unaffected by empirical findings. Our adjudicative system has a deep moral commitment—again, one that is constitutionally expressed—to the principle that a witness for the prosecution should testify under oath and in the presence of and subject to cross-examination by the accused. This confrontation principle accounts for most of what is valuable about the hearsay rule. Even if—as may well be the case—it turns out that the jury is perfectly capable of discounting hearsay evidence to take account of its defects, and even if the evidence in question is demonstrated to be highly reliable, this principle should preclude admissibility against an accused of testimonial statements not made under the prescribed conditions, unless the accused has forfeited his rights. To a large extent, then, I believe discussions of the reliability of hearsay evidence are beside the point.

Finally, a similar consideration applies to character evidence. As I have suggested above, I believe prior misconduct is often highly probative of a person’s propensity to commit similar misdeeds in

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See, e.g., U.S. Const. art. III, § 2, amends. VI, VII.

See, e.g., U.S. Const. amend. VI.


Allen and Leiter follow the Supreme Court’s jurisprudence, and most of academic discourse, in discussing hearsay issues in terms of reliability. See Allen & Leiter, supra note 2, at 1536.

See, e.g., Friedman, Confrontation, supra note 20.

Allen and Leiter, like many other scholars, engage in extensive discussions of this sort. The Supreme Court’s focus on reliability in considering hearsay cases has encouraged this type of discourse. See, e.g., White v. Illinois, 502 U.S. 346, 356 (1992) ("[W]here proffered hearsay has sufficient guarantees of reliability to come within a firmly rooted exception to the hearsay rule, the Confrontation Clause is satisfied.")
the future. Furthermore, it may well be that empirical testing would reveal that a jury is not likely to overvalue the evidence for that purpose. Nevertheless, I believe there are sound reasons to exclude such evidence when offered simply to show the propensity and the person's conduct in accordance with the propensity. Such evidence threatens to violate a fundamental principle by punishing people not for the crime charged, but for who they are and what they have done on occasions other than the one in question.

In sum, empirical research is crucial to keeping evidentiary law and discourse connected to reality, but at the same time we must remember that much of evidentiary law depends on basic value choices that are unlikely to be affected by empirical findings.

II. ECONOMICS

Several years ago, in expressing the hope that economic analysis would play a larger role in the study of evidentiary issues, I called economics an underused tool for evidentiary scholars, and evidence a largely unplowed field for economists. That situation has changed to a significant extent, if only because Judge Richard A. Posner, virtually the personification of law and economics, has at least fleetingly turned his attention to evidentiary issues. My colleague Professor Lempert, however, predicts in this symposium

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24 This effect occurs only if the jury or other factfinder misuses the evidence. Suppose the evidence were admitted and the jurors adhered to an instruction allowing them to use the evidence to assist them in determining whether the accused committed the act charged but barring them from letting the evidence alter the standard of persuasion facing the prosecution. In that case, we might conclude that the evidence should be admitted for whatever value it had in determining whether the accused did in fact act in the way charged. But I doubt the jury would adhere to such an instruction. It is too tempting, once one learns that the accused has committed bad acts in the past and has been free to commit further ones, either to punish him further for the past ones or to diminish the regret one would feel about convicting him for a crime he did not commit.

Note that this kind of misuse of the evidence is not an overvaluation. The jurors are not according to the evidence undue value in proving a given proposition; rather, the jurors are letting a proposition demonstrated by the evidence alter the task prescribed for them by, perhaps subconsciously, lowering the standard of persuasion that they apply.


that economic analysis will have little impact on evidentiary scholarship.27

To some degree, this prediction is based on an analysis of Judge Posner’s attempt at a comprehensive review of evidentiary law through an economic lens. I agree with many of Lempert’s criticisms of the Posner article.28 But I do not believe that article is a good gauge of the potential of economic analysis to advance understanding of evidence. The article is a hasty scan through the entire domain of evidence law. When advances come, I believe they will more likely be at the hands of scholars who patiently address particular evidentiary problems and topics. In addition, I believe Judge Posner too often magnifies the importance of small factors, and this lends an unrealistic quality to his article. For example, Lempert properly criticizes Judge Posner’s suggestion that protecting the celebrated (but fictitious) Blue Bus Company from liability on the basis of naked statistical evidence is necessary to keep the company running its routes where it provides a majority of the service.29 But we must give Judge Posner his due: If instead of talking about the Blue Bus Company, we talk about generic drug manufacturers, the concern may have significantly more weight. Lempert is, on the whole, pessimistic about the role that economic analysis is likely to play in evidence scholarship.30 He is correct that, for the most part, evidentiary issues do not concern potential trades or exchanges—though we should not overlook the significant situations in which they do. Thus, Professor Eric Rasmusen’s analysis of the problems raised by United States v. Mezzanatto,31 in which the prosecution demands a waiver of evidentiary right as a precondition of entering into plea negotiations, strikes me as a good example of how rigorous economic analysis can clarify an evidentiary problem.32 The implicit or explicit bargaining process that sometimes leads to stipulations may offer

27 Lempert, supra note 1, at 1622–23.
28 As Lempert agrees with the criticism that I have leveled against it. See Richard D. Friedman, A Presumption of Innocence, Not of Even Odds, 52 Stan. L. Rev. 873 (2000).
29 Lempert, supra note 1, at 1667–72.
30 Id. at 1623.
another good subject for such work. Also, as I note further below, expert evidence arises in a market setting; in that context, only one of the potential parties to an exchange is a party to the litigation, the other being merely a witness.

Putting aside relatively confined topics like these that clearly involve bargaining, I believe that there are still ripe evidentiary fields remaining for economic analysis. Viewed most broadly, economic analysis of law concerns how rules may optimize the trade-off of one set of values against another. In this sense, evidence is as conducive to analysis by economic tools as is any other legal field in which non-absolute values may compete. These values do not have to relate to money; if we are willing, for example, to sacrifice some accuracy in truth determination for increased protection of privacy, that is a trade-off that can be analyzed in economic terms.

Viewed somewhat more narrowly, economics concerns the allocation of scarce resources. Evidence is often expensive to produce, and evidentiary law cannot afford to overlook this expense in shaping evidentiary rules. Moreover, economic thinking can help sharpen analysis of how evidentiary law should allocate responsibility for producing evidence and its cognate, risk of non-production, between adversaries. Because that allocation is so central to evidentiary law, game theory offers a natural method for thinking carefully about how to structure some rules. Thus, for example, I have found principles of finding the cheapest cost avoider and of game theory helpful in attempting to think afresh about how hearsay law should be structured outside the context in which the confrontation right prevails.

I have found Bruce L. Hay, Allocating the Burden of Proof, 72 Ind. L.J. 651 (1997), helpful in this regard. The relative social utility of various outcomes—such as an incorrect judgment for an accused or for a prosecutor—is clearly critical to determining the standard of persuasion, which instructs adjudicators as to how probable it must be that the facts favor a given party for that party to prevail. I had previously thought that such assignments of utility did not enter into assigning the burden of production, which comes into play before the factfinder has a chance to determine the facts. But Hay’s analysis makes clear that these assessments of social utility do indeed play a significant role in the assignment of that burden, for the assignment may determine the outcome when the party with the burden fails to satisfy it. Obvious? Perhaps, but I had not recognized the point beforehand.

Furthermore, much of evidentiary law concerns the creation of incentives, which is a natural field for economic analysis. In some cases, evidentiary rules are meant to give the parties or other primary actors incentives to act in certain ways. Such incentives may be aimed at improving the conduct of the current litigation. For example, to some extent, attorney-client privilege rules are instrumentally based, intended to ensure that clients will not be afraid to communicate with their lawyers in a way that, if disclosed, might hurt them in litigation. The incentives may also be meant to improve the external impact the current litigation will have. For example, the rule against evidence of subsequent remedial measures is best justified, when it can be justified, as giving a party comfort that it will not hurt its interests in the current litigation if it corrects a condition that might cause injury to others in the future.

Incentives may also be directed towards the lawyers; indeed, as Professor Dale Nance emphasizes in this symposium, a large portion of the law of evidence can best be explained in terms of attempting to control not jurors but lawyers. Much evidentiary law developed in the late eighteenth and early nineteenth centuries, when the role of criminal lawyers was expanding; as the works of Professor Thomas Gallanis and others have emphasized, the timing does not appear to be mere coincidence.

In short, it seems that evidence should provide a fertile field for economic analysis. Lempert nevertheless believes that economic thinking will have little impact on evidentiary discourse. He points out correctly that economic analysis is not particularly useful in assessing some considerations—the sense of justice conveyed by procedure that feels fair, for example—that may be crucial in shaping evidentiary law, and that the analysis often depends crucially on empirical factors that are difficult or impossible to test. Where economic analysis nevertheless leads to sensible results, he believes

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36 See T.P. Gallanis, The Rise of Modern Evidence Law, 84 Iowa L. Rev. 499 (1999). Gallanis argues that the rise of evidence law was a response to lawyers' "new, more aggressive approach to oral evidence," which itself was a result of their increased appearances in criminal trials. Id. at 537-38.
37 Lempert, supra note 1, at 1623.
common sense will get there, or thereabouts, just as well, without
the need for all the extra intellectual baggage and apparatus.\textsuperscript{38}

Perhaps he will be proved right over time. Though I agree that
economic analysis is unlikely to be as significant in the evidentiary
realm as, for example, in the fields of torts and contracts, I am
more optimistic than he that the contribution of economics to evi-
dentiary law will yet be substantial. The value of intellectual rigor
should never be underestimated. Even if economic analysis does
not reveal stunning new insights—and I am not prepared to say
that it will not—it can provide confirmation and deeper explana-
tions for what we think we know. It can challenge those premises
and cause us to work harder to justify them. It can help expose
some of the premises—whether testable or not—on which our con-
clusions rest, and it can identify material factors that may have
been overlooked.

One other factor gives me some confidence that economic think-
ing will play a larger role in evidentiary analysis. When a style of
thinking comes naturally to a scholar, he or she naturally tends to
apply it to new problems. The growing importance of economic
analysis in other areas of the law school curriculum has meant that
large numbers of young legal scholars are comfortable with the ap-
plication of economic theory to legal problems. Many of those
young scholars who work in the field of evidence will, whether or
not they think of themselves as law and economics scholars, infuse
their analysis of evidentiary issues with an economic style of think-
ing. This development has already begun,\textsuperscript{39} and I have confidence
that it will continue.

\section*{III. Epistemology}

Trials deal with uncertainty. Thus, the law of evidence must con-
sider how factfinders—whether real or ideal—assess uncertain

\textsuperscript{38} Id. at 1623.

factual propositions, and how new information affects those assessments.

Like many other scholars, I have found the standard, or Bayesian, probability calculus to be a useful, even inevitable, analytical tool for thinking about these problems. Allen and others, whom I have termed Bayesioskeptics, minimize the usefulness of Bayesian methods in evidentiary discourse. Allen continues the conversation in the paper he has contributed to this symposium with Leiter.40

To a considerable extent, they repeat points that Allen and others have made before, and to which Bayesians, including me, have already responded; if this is a conversation of fifteen years, I have the distinct impression that the other side is not always listening. For example, they contend that “[t]he law applies burdens of persuasion to elements, not to causes of action as a whole,” an assertion that Nance persuasively challenged long ago.42 Along the same lines, they repeat Allen’s contention that if the law did apply burdens to claims as a whole, this would lead to “unacceptable consequences, by making the level of proof of specific elements turn on the fortuity of the number of elements in a cause of action”—and they ignore my response showing, among other things, that the average probability per element required to support a judgment is a figure of no significance.43 And they continue Allen’s effort to brand Bayesian analysis as algorithmic—a pejorative la-

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40 Allen & Leiter, supra note 2, at 1507–10.
41 Id. at 1504.
44 See Friedman, Bayesioskeptical Challenge, supra note 42, at 282–83.
45 They refer to “the Bayesian mirage that algorithms may be substituted for substantive engagement with the evidence.” Allen & Leiter, supra note 2, at 1509. Frankly, I have no idea where they get the idea that Bayesian analysis does not
bel meant to make the analysis seem mechanical—without responding to my arguments showing that the effort is misguided.°

Allen and Leiter also resort to the old chestnut of "computational complexity." Though they do not address most of the arguments I have made in response, they do make at least a glancing reference to some of them. In an attempt at aphorism, I have said that it is not the fault of Bayesianism that the world is complicated.° Allen and Leiter reply that the issue is not fault but reality—"the world is complicated, and that fact constrains normative advice."° True, but Bayesianism would be a poor system if it were not capable of reflecting the world’s complexity. There are various strategies for dealing with that complexity. For example, an analyst can usefully simplify her task by aggregating various possibilities together.

Allen and Leiter answer that "[t]his move carries only a false promise. The real intellectual work will have been done in the ‘bunching,’ and the failure to ‘bunch’ correctly will lead inexorably to false outcomes (except only by chance)."° This assertion fails to recognize the subjective nature of Bayesianism; the only constraints that Bayesianism puts on the probabilities that an observer may assign to a set of propositions are that they be in the range from zero to one and that they meet conditions of consistency with each other. More fundamentally, the observer's understanding of the world and of the issues at stake will usually provide considerable guidance on how to aggregate possibilities in a sensible way.°°

depend on "substantive engagement with the evidence;" it strikes me that it is this claim that is a mirage.

° See Richard D. Friedman, Towards a (Bayesian) Convergence?, 1 Int'l J. Evidence & Proof 348, 349–50 (1997) [hereinafter Friedman, (Bayesian) Convergence].

°° See Friedman, Bayesioskeptical Challenge, supra note 42, at 288–90.

°° Allen and Leiter, supra note 2, at 1507.

°°° Id. (citing Ronald J. Allen, Clarifying The Burden Of Persuasion And Bayesian Decision Rules: A Response To Professor Kaye, 4 Int'l J. Evidence & Proof 246 (2000), which asserts (with neither citation nor argument): "There is literally no reason to believe that the ‘lump it together as you please’ approach will lead to factually accurate outcomes; it just as well may lead to completely bizarre outcomes." Id. at 255.).

°°°° For example, in a murder case it will probably make sense to batch the proposition, "The defendant stabbed the victim in the heart at 10:25:15" with the proposition, "The defendant stabbed the victim in the heart at 10:25:16" and an
Further, though the aggregation of propositions in a sensible way is a crucial step in assessing the probabilities that are material to the observer, it is plainly far from the final step; there is much "intellectual work" remaining to assess the bottom-line probability in light of all the available evidence. Finally, Allen and Leiter's objections are ironic in light of the fact that Allen appears to have endorsed aggregation as a way of mitigating problems in his own theory.  

One further point repeated by Allen and Leiter deserves special attention, because other participants in the symposium continue to make the same suggestion—that Bayesian analysis is inconsistent with a holistic approach in which the factfinder considers all of the evidence together. But, as I have tried to show elsewhere, Bayesian analysis is a flexible template. Nothing in Bayesian analysis requires the assumption that a factfinder ingest and digest the evidence one elemental piece of information at a time—byte by byte, so to speak—and update its probability assessments with each new ingestion. It is perfectly consistent with Bayesian analysis for a factfinder to absorb all relevant information and then compare the relative plausibility of the various stories that might account for all the evidence.

At the same time, any epistemological system that is going to be useful for evidentiary analysis must be capable of showing how adding an individual item to a body of evidence alters a probability assessment. This function is crucial because the evidentiary system frequently operates on such individual items, deciding whether they should be admitted or excluded. Bayesian analysis is perfectly capable of performing this function. Indeed, this is the function of-

\[\text{infinitely dense range of similar propositions, but not with the proposition, "The victim stabbed herself at 8:30."} \]

\[\text{See infra text accompanying notes 64–67.}\]

\[\text{Diamond & Vidmar, supra note 6, at 1861; Lempert, supra note 1, at 1642–43; Allen & Leiter, supra note 2, at 1534 (contending that the instruction to jurors not to draw inferences until all the evidence is in "is a striking embarrassment to a Bayesian understanding of the structure of litigation," because "[t]he fact finders are explicitly instructed to do the opposite of what the Bayesian argument requires").}\]

\[\text{Friedman, Bayesioskeptical Challenge, supra note 42, at 286–88; Richard D. Friedman, Infinite Strands, Infinitesimally Thin: Storytelling, Bayesianism, Hearsay and Other Evidence, 14 Cardozo L. Rev. 79 (1992) [hereinafter Friedman, Infinite Strands].}\]

\[\text{Whether jurors should be instructed to postpone consideration is another matter.}\]
ten performed by Bayes' Theorem—an important aspect of the standard probability calculus but not, despite the name, the entirety of that calculus.

I will repeat here a challenge that I made several years ago and that, so far as I can tell, no Bayesioskeptic has taken up:

I cannot recall the Bayesioskeptics ever offering any criticism about particular uses of probabilistic methods as a tool for analysing evidentiary questions; the challenges always seem to be at the general level, concerning the value of the enterprise itself or the overall standard of persuasion. I think they should examine the particulars of what we are doing. I claim that probabilistic methods have helped us achieve results that are not obvious but that are sound, intuitively appealing, and readily explainable. If I am right, the Bayesioskeptics should acknowledge that. If I am wrong, they should show why.55

Closely associated with Bayesian probability theory is the classical decision theory based on the expected value of any course of action. The premise of the theory, often labeled Bayesian Decision Theory ("BDT"), is that in selecting a course of action, an actor should take into account the values, or utilities, of the possible outcomes and the probabilities of each. BDT has proven useful for analysis in a variety of real-world situations,56 and in evidence law it has been especially helpful in analyzing problems related to the standard of persuasion.57

Indeed, for the latter purpose BDT strikes me as a virtually inevitable tool. The determination of a lawsuit is a classic instance of a decision made under uncertainty. In this case the uncertainty

55 Friedman, Bayesioskeptical Challenge, supra note 42, at 290. Allen and Leiter do acknowledge, with no elaboration, that Bayesian analysis "does have some value as an informal heuristic." Allen & Leiter, supra note 2, at 1510. I cannot tell to what extent this acknowledgment is meant to concede my claim "that probabilistic methods have helped us achieve results that are not obvious but that are sound, intuitively appealing, and readily explainable." Friedman, Bayesioskeptical Challenge, supra note 42, at 290. To the extent that it is, I wonder what all the shouting is about.

56 See generally Howard Raiffa, Decision Analysis: Introductory Lectures on Choices under Uncertainty (1968) (demonstrating the application of decision analysis to five different real world scenarios).

concerns the state of the world—do the facts favor Party A or Party B? Given that uncertainty, a decisionmaker choosing between A and B must take into account how probable each state is. But the general decision rule cannot simply be to award decision to the party who is favored by the state of the world that appears most probable to the factfinder. Using logic like that in another context, a decisionmaker might say, "It is better if I get across the street now than if I wait a few seconds, and if I go now I will more likely than not get across without being hit by that onrushing car." Plainly, the life expectancy of a decisionmaker using such logic would be short. We must take into account not only the probabilities but also the relative values of the possible outcomes.

I find Allen and Leiter's criticism of BDT especially puzzling because the "relative plausibility" theory that they propound, one that Allen has long advocated, is perfectly consistent with BDT—at least if their theory is interpreted sensibly. The essence of their theory is the premise that "legal fact-finding involves a determination of the comparative plausibility of the parties' explanations offered at trial rather than a determination of whether discrete elements are found to a specific probability." But BDT does not require that "discrete elements" be "found to a specific probability." Rather, as Bayesians have shown repeatedly, BDT provides that the claimant (plaintiff or prosecutor) should prevail if the probability that the claimant has a valid claim is greater than the standard of persuasion. The standard of persuasion is determined, as suggested above, by taking into account the harm caused by wrong results. The probability that the claimant has a valid claim is the probability that the facts support an aggregate of propositions sufficient as a matter of law to warrant judgment for the plaintiff. Assessing that probability also requires an assessment of alternative explanations for the evidence, explanations under which that

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58 Allen & Leiter, supra note 2, at 1532–34.
59 See Friedman, Infinite Strands, supra note 53, at 93 n.40 (making some of these same arguments in more detail).
60 Allen & Leiter, supra note 2, at 1527–28.
61 See supra notes 49–55 and accompanying text (discussing Bayesian demonstrations that the standard of persuasion should be applied to the claim as a whole).
aggregate of propositions would not be true; Bayesian analysis is therefore inherently comparative.

Thus, Allen and Leiter’s assertion that “in criminal cases the prosecution must provide a plausible account of guilt and show that there is no plausible account of innocence”\(^2\) seems perfectly Bayesian, as do statements by Judge Posner that they cite in their support.\(^3\)

Their assertion that “[i]n civil cases, the fact finder is to identify the most plausible account of the relevant events”\(^4\) raises more difficulties, but if it is understood in a sensible way it is consistent with BDT. For one thing, on its face the assertion seems to put a great deal of emphasis on what shall be considered an account. To draw on a hypothetical raised during this symposium, suppose the jury must determine what color a traffic light was when the defendant entered the intersection, and that under the governing law the plaintiff prevails if the light was red but not if the light was yellow or green. The jury concludes that the light was more likely red than yellow, and more likely red than green—but that it is more likely that the light was green or yellow than that it was red. BDT calls for the defendant to win. What would Allen and Leiter say? If, as one of Allen’s prior articles suggests,\(^5\) they agree that the defendant should win because the defendant’s liability-denying account (“It was green or yellow”) is more plausible than the plaintiff’s liability-creating account (“It was red”), then it is hard to see how they are not being Bayesian. Perhaps they believe instead that the plaintiff should win, because the red account is more plausible than either the yellow account or the green account individually. It is hard to understand, though, why the jury should not aggregate the yellow and green accounts. Allen’s prior writing suggests that the factfinder ought to be able to aggregate accounts at least to some

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\(^2\) Allen & Leiter, supra note 2, at 1528.
\(^3\) See, e.g., Spitz v. Comm’r, 954 F.2d 1382, 1384–85 (7th Cir. 1992) (“[I]n general and in this instance the plausibility of an explanation depends on the plausibility of the alternative explanations. However implausible the [defendant’s] explanation might seem in isolation, it does not stand alone, but must be compared with the government’s alternative explanation . . . .”) (citations omitted), quoted in Allen & Leiter, supra note 2, at 1533.
\(^4\) Allen & Leiter, supra note 2, at 1528.
\(^5\) Allen, Reconceptualization, supra note 43, at 432–33.
extent—highly ironic in light of the fact that he and Leiter now criticize Bayesian analysis for its dependence on such aggregation—and they do not present criteria indicating when aggregation has gone too far.

Assuming full aggregation of accounts is allowed, asking whether the pro-plaintiff account is more plausible than the pro-defendant account is perfectly Bayesian and perfectly consistent with the usual understanding that the standard of persuasion in the ordinary civil case is "more likely than not." But what do we do about cases in which a higher standard applies, such as "clear and convincing evidence"? If the relative plausibility theory applies in the same way to that standard as it does to the "more likely than not" standard, then it has eviscerated the difference between the two standards. Therefore, Allen has previously recognized that the concept of cardinality must come into play. "Clear and convincing proof," he has said, "is simply a considerably more persuasive story than its opposition." He admits this standard is "troublesome" for his theory. Indeed, once cardinality is introduced, relative plausibility sounds just like probability. If there is a difference, he and Leiter have not explained it.

Having said all this, I do not mean to deny that parties and their advocates tend to tell fairly specific stories in court, and that juries often tend to view the case by comparing such stories. The defendant will tend to say—and will tend to be more persuasive if he can say—"It was green," rather than, "Gee, I don’t know, it was green or yellow, I’m not sure, but it wasn’t red." It would be a mistake, though, to equate the common practice of advocates and of juries with a rule of law. The doctrine of res ipsa loquitur means that sometimes a plaintiff can say, "I’m not able to say just what happened, but I must have been hurt by the defendant’s misconduct." So too, a defendant not bearing the burden of producing evidence ought to be able to argue to the jury, "I don’t know which of the

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66 Id. at 428 (noting that the parties must be "required to be fairly specific, although I cannot say what ‘fairly’ means with any specificity").
67 See supra notes 48–51 and accompanying text.
69 Id. I confess myself mystified by what Allen means when he says that what he calls the standard practice "hides . . . the ambiguity in the word ‘considerably.’" Id.
70 Friedman, (Bayesian) Convergence, supra note 46, at 353 n.3.
myriad of ways in which the plaintiff might have been injured is the actual one, but it is implausible that it was as a result of my misconduct.”

IV. EXPERT EVIDENCE

One of the enduring problems of evidence law, and one that received much attention at this symposium, is that of expert evidence. I believe expert evidence presents a particularly difficult conundrum because of the confluence of at least three factors.

First, by definition, expert evidence presents information or a perspective that is unfamiliar to most jurors and judges. This lack of familiarity gives expert evidence its peculiar importance and power to persuade. At the same time, though, it makes the evidence particularly difficult for judges and juries to evaluate. Thus, on the one hand, it potentially poses the danger that evidence of little value will over-persuade the jury and lead to unjust results. On the other hand, an overly abstemious attitude towards expert evidence might deprive a party of evidence that would justifiably support its case.

Second, the relationship of an expert witness to judicial proceedings is much different from that of the ordinary percipient witness to those proceedings. The percipient witness can usually be compelled to testify, and ordinarily if a party needs to prove a given proposition it will have little or no choice as to which percipient witness to use. By contrast, the expert witness cannot be compelled to testify, usually she will not testify absent substantial payment, and generally the party has a range of possibilities as to which expert to present.

Finally, unlike the percipient witness, the expert witness does not contribute to the adjudicative process primarily by testifying as to what she observed with her senses in the particular case. Rather, she testifies as to principles of more or less generality and their application to the case.

Empirical understanding of the system by which expert evidence is secured and presented, and of how well it is assessed by courts and juries, can of course be of great assistance in trying to deter-

71 See Friedman, Infinite Strands, supra note 53, at 94 n.40.
mine what changes, if any, should be made in the system. Because expert witnesses are usually brought to the courtroom by the force of the marketplace rather than by the force of conviction or of subpoena, this is an area that is especially appropriate for economic analysis.

Sensitivity to epistemological issues can also be helpful. For example, Bayesian analysis suggests there is more value to the "ultimate issue" rule than Federal Rule of Evidence 704 recognizes. The justification is not the old-fashioned one that the expert is usurping the role of the jury by expressing an opinion on an ultimate proposition that forms an element of the claim. Rather, it is that in most instances, the expert has no useful perspective to offer in testifying to the prior probability of the proposition at issue—that is, how probable the proposition is as assessed without considering the body of evidence as to which the expert has special knowledge. The expert can assist the factfinder only by testifying as to the likelihood ratio of the evidence or as to the components of that ratio—that is, the probability that the body of evidence would arise given the truth of the proposition and the probability that the evidence would arise given the falsity of the proposition. Implementing this principle, though, can be very difficult.

Of greater significance, a Bayesian perspective helps probe the direction in which Daubert v. Merrell Dow Pharmaceuticals has taken the law of expert evidence. Daubert emphasizes the reliability of expert evidence as a critical criterion for admissibility, and Federal Rule 702 has since been amended to confirm this emphasis. Previously, the Rule required simply that an expert be "qualified... by knowledge, skill, experience, training, or educat-

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72 A very useful empirically-based study is Samuel R. Gross, Expert Evidence, 1991 Wis. L. Rev. 1113.
73 See C.G.G. Aitken, Statistics and the Evaluation of Evidence for Forensic Scientists 225 (1995); Richard D. Friedman, The Elements of Evidence 95–96 (2d ed. 1998) [hereinafter Friedman, Elements]; Bernard Robertson & G.A. Vignaux, Interpreting Evidence: Evaluating Forensic Science in the Courtroom 60–65 (1995). But see J.D. Jackson, The Ultimate Issue Rule: One Rule Too Many, 1984 Crim. L. Rev. 75 (contending that sound decisions based on the ultimate issue rule could be justified on other grounds, such as that the opinion is not helpful to the jury or that it is expressed in legally conclusory terms).
tion," and that communication of her "specialized knowledge" must be able to "assist the trier of fact to understand the evidence or to determine a fact in issue." The amendment added requirements that the testimony be "based upon sufficient facts or data" and "the product of reliable principles and methods," and that the witness have "applied the principles and methods reliably to the facts of the case."

But what does reliability mean? A reliable indicator of a phenomenon is one that is far more probable to arise given the phenomenon than given the absence of the phenomenon. But then there cannot be reliable expert evidence tending to prove the phenomenon and other reliable expert evidence tending to disprove the phenomenon. If Daubert and the recent amendments were taken seriously, there would be no room for a "battle of the experts"—that is, for adverse parties' experts to take conflicting positions as to a material issue. Perhaps that seems at first glance to be a rather appealing prospect. But, in fact, it would mean that the court would have to resolve at the threshold all matters on which expert testimony is offered rather than leaving them to the jury.

Thus, in the realm of expert evidence as in that of hearsay, it is a mistake to make admissibility depend on a determination of reliability; I am in agreement here with the perspective offered by Professor Jennifer L. Mnookin at this symposium. The core language of Federal Rule 702 as it stood before the amendment appears to pose the proper question in determining whether expert evidence should be admitted: Will the expert evidence "assist the trier of fact" in understanding the other evidence and determining material facts? The standard is basically a specialized application of the balance of probative value and prejudicial potential posed by Federal Rule 403.

It is tempting in applying such a standard to assume that the jury is likely to be overwhelmed by misleading expert evidence. I certainly acknowledge that parties offer bad, misleading expert evidence; the case study offered at this symposium by Professor D.H. Kaye appears to present an example. Yet I think it is a mis-

76 Fed. R. Evid. 702 (prior to 2000 amendment).
take to make this fear the dominant force in determining the admissibility of expert evidence. For evidence to fail this standard, it must do more harm than good to the adjudicative process. That is, the jurors must so overevaluate the evidence that it tends to lead them further away from the truth, rather than closer to it. This is unlikely to happen unless the evidence is nearly worthless. Some expert evidence meets even that description; again, the evidence in the case described by Kaye may be an example. So far as I am aware, however, the empirical question posed by Sanders has not yet been answered; we do not yet have any good basis for confidence that judges will do a significantly better job than juries in sorting out the wheat from the chaff. It is interesting to note in this light that in Kaye’s case, the trial court admitted the challenged evidence despite all its weaknesses.

I do not mean to suggest that courts should exercise no control over juries in the realm of expert evidence. I have argued only that courts should exercise considerable self-restraint, and that we should not accept readily the premises that juries will tend to be led astray by bad expertise and that courts can help set them aright by filtering out bad expert evidence from good. Furthermore, I agree with Mnookin that when expert evidence is troublesome, the difficulty is likely to be not that the evidence is too unreliable to warrant admissibility, but that the plaintiff’s case is, at least arguably, too weak as a matter of law to support a judgment.

The two concepts are easy to confound because often the plaintiff’s case depends entirely on the expert evidence; if it is not admissible, then the plaintiff must suffer an adverse judgment as a matter of law. This was true in each case in the Supreme Court’s

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79 See generally Peter Donnelly & Richard D. Friedman, DNA Database Searches and the Legal Consumption of Scientific Evidence, 97 Mich. L. Rev. 931, 974–75 (1999) (assuming that “some evidence offered under the guise of science is of so little value, and of sufficient prejudicial potential, that exclusion is warranted,” but contending that “deference to the scientific establishment in an attempt to fend off junk science may create another problem—failure to recognize the extent to which . . . the needs of the legal system do not match up with the methods ordinarily used by scientists”).

80 Kaye, supra note 78, at 1989.

recent trilogy on expert evidence—*Daubert* itself, involving a meta-analysis of studies showing the effects of the drug Bendectin; *General Electric Co. v. Joiner*, involving testimony by a well-qualified toxicologist drawing adventurous inferences from animal and epidemiological studies; and *Kumho Tire Co. v. Carmichael*, involving testimony of an experienced tire expert on what caused a tire to blow out. In each of these cases, the methods used by the experts were open to question—as is often so in cases involving expert testimony—and the conclusions they reached were dubious. But in none of them was the evidence worthless. Suppose in each case that, even apart from this challenged evidence, the plaintiff introduced evidence clearly sufficient as a matter of law to support a judgment. Then I suspect the challenged evidence would be admitted without much difficulty.\(^{54}\)

If I am right about this, then the law of admissibility has been called on to carry weight that should be borne—if at all—by the law of sufficiency. In *Daubert*-type cases, courts have held the expert evidence inadmissible and then granted judgment as a matter of law for the defendant because of the dearth of evidence supporting the plaintiff on an element of the claim. Instead, if the court believes that control of the jury is necessary, it should exercise that control less by ruling the expert evidence inadmissible and more by ruling that, even given that evidence, the plaintiff does not have enough evidence to support a judgment. A ruling of this sort would achieve the same result when the expert evidence is essential to the plaintiff’s case, but would do so without distorting the standard for admitting expert evidence in other situations, when the evidence is not essential to satisfy a burden of production imposed on the offering party.

Ruling in this way allows the court to control the jury without necessarily concluding that the jury was susceptible to being over-persuaded by expert evidence that the court finds unpersuasive. In a case without significant expert evidence, a judge granting defendant’s motion for judgment as a matter of law or for remittitur need not conclude that the jury was, or would be, bamboozled by

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\(^{52}\) 522 U.S. 136 (1997).

\(^{54}\) See Friedman, Elements, supra note 73, at 107 (posing a hypothetical based on *Joiner* in which other evidence supports the plaintiff’s case).
the plaintiff's evidence. Rather, she might conclude that a jury reaching a dubious pro-plaintiff conclusion would not be doing the job established for it by the law, reaching its verdict according to the court's instructions, and would instead be deciding, for reasons that the law could not accept, to throw money from the defendant (or the defendant's insurer) to the plaintiff. Furthermore, this basis for granting summary judgment would not be undercut if the evidence that provided the weak link in the plaintiff's case, leading to the judge's inference that if the jury found for the plaintiff it most likely was ignoring its job, was offered by an expert witness.

I suggest, then, that rather than holding expert evidence to be so unpersuasive as to be inadmissible and then granting judgment as a matter of law, courts should more readily grant judgment as a matter of law because, even if the expert evidence is admissible, it is insufficient to support a judgment. One doctrinal factor, however, has made it easier for courts to follow the former course. It is commonplace that a party can satisfy his burden of producing evidence to prove proposition $X$ by presenting a competent percipient witness who testifies to $X$ from her own personal knowledge; no matter how weak the witness's credibility may seem to the court, and no matter how overwhelming the evidence of not-$X$ may be, it lies within the realm of the jury to accept the testimony of the witness who says, "$X$ is true. I saw it with my own eyes." Courts tend to apply the same principle to expert witnesses. But there is no real reason to do so, at least in what I have suggested above is the usual case, when the expert is principally testifying to inferences rather than to perceptions. Courts are used to holding that a given inference is too far a reach for a jury to make on the basis of the facts presented to it, and there is no reason why they cannot do so when an expert witness, and not just a lawyer, has suggested the inference. That is, indeed, just what they do now in holding expert evidence inadmissible under Daubert. I am merely suggesting that when they do it, they should more readily do it under the procedural rubric of sufficiency rather than that of admissibility.

CONCLUSION

This conference encouraged an eclectic approach to evidence law, and I have endorsed one in this essay. By focusing on the perspectives highlighted in the conference—empirical, economic, and
epistemological—I do not mean to exclude others, even those that fail to begin with the letter “E.” For example, Professor David Bernstein rightly suggested at the conference that a comparative perspective can have much to offer, specifically on the problem that drew special attention at this conference, that of expert evidence. See David E. Bernstein, Junk Science in the United States and the Commonwealth, 21 Yale J. Int’l L. 123 (1996).

I have found that an historical perspective illuminates the law of hearsay and confrontation, and in general I suspect we evidence scholars would benefit greatly, in ways we cannot even predict, from a deeper historical understanding of our field. I do not mean to slight other perspectives by failure to mention them. The realm of evidentiary law remains a challenging and intriguing jumble of problems that resists reductionism and that invites wisdom from all quarters.

See, e.g., Friedman, Confrontation, supra note 20, at 1022–26.