11-5-2007

On Misshapen Stones and Criminal Law's Epistemology

Michael S. Pardo
University of Alabama - School of Law, mpardo@law.ua.edu

Book Review

On Misshapen Stones and Criminal Law's Epistemology

TRUTH, ERROR, AND CRIMINAL LAW: AN ESSAY IN LEGAL EPISTEMOLOGY. By Larry Laudan. New York, NY: Cambridge University Press, 2006. Pp. 254. $75.00.

Reviewed by Michael S. Pardo*

"[L]awyers have learned to love misshapen stones in grotesque structures. But the strain on scientists is understandable, for they have a different sense of the aesthetic."

—Richard Lempert[1]

Law and legal scholarship have had an interesting and complicated relationship with the philosophy of science. When the law must make determinations about the nature of science, the philosophy of science, with its attempts to make explicit what is implicit in scientific practices, may perhaps be a good place to start. Therefore, it is not surprising that the Supreme Court invoked it in the context of scientific-expert testimony. In *Daubert*,[2] for example, the Court referred to whether results can be "tested" or "falsified" as a mark of what separates science from nonscience, invoking the views of philosophers of science Carl Hempel and Karl Popper.[3] Likewise, it is not surprising that the philosophy of law would appeal to related issues in the philosophy of science, given that the two areas share similar

* Assistant Professor, The University of Alabama School of Law. My thanks to Ron Allen for helpful comments, to the Texas Law Review staff for excellent editorial work, and to Dean Ken Randall and The University of Alabama Law School Foundation for generous research support.

1. Richard Lempert, *DNA, Science and the Law: Two Cheers for the Ceiling Principle*, 34 JURIMETRICS J. 41, 57 (1993).

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

3. *Id.* at 593 (citing CARL G. HEMPEL, PHILOSOPHY OF NATURAL SCIENCE 49 (1966) and KARL POPPER, CONJECTURES AND REFUTATIONS: THE GROWTH OF SCIENTIFIC KNOWLEDGE 37 (5th ed. 1989)). Some scholars have also appealed to the philosophy of science when discussing scientific testimony, while others have questioned this reliance. *Compare, e.g.*, Erica Beecher-Monas, *The Heuristics of Intellectual Due Process: A Primer for Triers of Science*, 75 N.Y.U. L. REV. 1563, 1568 (2000) (providing a guide for evaluating scientific testimony using the philosophy of science), *with, e.g.*, Brian Leiter, *The Epistemology of Admissibility: Why Even Good Philosophy of Science Would Not Make for Good Philosophy of Evidence*, 1997 BYU L. REV. 803, 805, 805–06, 812–17 (arguing that "the philosopher's question, 'What is the best account of scientific method?'" should not be confused with the "the lawyer's question, 'What is the best criterion for judges to use in deciding the admissibility of scientific evidence?'" because of the differing epistemic norms governing each activity).

methodologies,[4] difficulties,[5] and intellectual norms. Nor is it surprising that those exploring legal knowledge, and law, as a mode of inquiry would look to the sciences for analogies and differences, given the successes of science and its generally accepted position as the best example going of rational thought in our culture.[6]

Concepts and ideas from the philosophy of science, however, have also become slogans in debates regarding politically controversial issues, such as evolution and creationism.[7] And even when used in illuminating ways, concepts and ideas from the philosophy of science sometimes take on a life of their own, stripped of much of their original content and context. For example, legal scholarship—following general academic, intellectual, and cultural trends and fashions—has incorporated Thomas Kuhn's notion of "paradigm shifts"[8] (the best example, obviously) into its general vernacular, employing it to describe a variety of diverse phenomena. A Westlaw search

---

4. *See* Brian Leiter, *Is There an "American" Jurisprudence?*, 17 OXFORD J. LEGAL STUD. 367 (1997), *reprinted in* BRIAN LEITER, NATURALIZING JURISPRUDENCE: ESSAYS ON AMERICAN LEGAL REALISM AND NATURALISM IN LEGAL PHILOSOPHY 81, 84 (2007) (pointing out that the jurisprudent, like the philosopher of science, identifies and assesses epistemological and ontological commitments involved in the practices examined).

5. *Compare* Brian Leiter, *Why Quine Is Not a Postmodernist*, 50 SMU L. REV. 1739 (1997), *reprinted in* NATURALIZING JURISPRUDENCE: ESSAYS ON AMERICAN LEGAL REALISM AND NATURALISM IN LEGAL PHILOSOPHY, *supra* note 4, at 136, 140 (noting that reducing legal categories to philosophical ones might miss the logic and integrity of the actual practice of law), *with* David Crump, *The Trouble with* Daubert-Kuhmo*: Reconsidering the Supreme Court's Philosophy of Science*, 68 MO. L. REV. 1, 2 (arguing that under the Supreme Court's philosophy-of-science test in *Daubert*, many prominent scientists would be excluded from testifying as experts).

6. *See, e.g.*, Gregory Mitchell, *Empirical Legal Scholarship as Scientific Dialogue*, 83 N.C. L. REV. 167, 175–76 (2004) (arguing that peer review of law-review articles could be used to enforce "scientific norms"); Thomas S. Ulen, *A Nobel Prize in Legal Science: Theory, Empirical Work, and the Scientific Method in the Study of Law*, 2002 U. ILL. L. REV. 875, 876 (arguing that "the study of law is well suited to the application of the scientific method" and that "the academic study of law has for a long time been much more like other scientific pursuits than is commonly thought to be the case").

7. *See, e.g.*, Johnny Rex Buckles, *The Constitutionality of the Monkey Wrench: Exploring the Case for Intelligent Design*, 59 OKLA. L. REV. 527, 595 (2006) ("[I]ntelligent design probably does not fail to qualify as 'scientific' merely because it may be understood to require (or at least strongly imply) supernatural agency . . . . [This] conclusion is supported . . . by an appropriate philosophy of science."). Some relying on these ideas have even raised questions about the concept of science itself. *See* Richard B. Katskee, *Why It Mattered to Dover that Intelligent Design Isn't Science*, 5 FIRST AMENDMENT L. REV. 112, 135 (2006) (discussing Professor Jay Wexler's argument that drawing any line between science and religion conflicts with the views of some philosophers of science who question attempts to establish strict criteria for distinguishing science from nonscience).

8. *See generally* THOMAS S. KUHN, THE STRUCTURE OF SCIENTIFIC REVOLUTIONS (3d ed. 1996) (introducing and discussing the idea of paradigm shifts); Albert W. Alschuler, *Rediscovering Blackstone*, 145 U. PA. L. REV. 1, 19 (1999) ("[J]ust as . . . lawyers prior to the time of Thomas Kuhn insisted that law is a science, legal scholars after Kuhn have spoken of scientific revolutions and paradigm shifts." (citation omitted)); David A. Westbrook, *Corporation Law After Enron: The Possibility of a Capitalist Reimagination*, 92 GEO. L.J. 61, 70 n.35 (2003) ("The once fashionable term 'paradigm shift' was appropriated by the legal community from Thomas Kuhn.").

of "Thomas Kuhn" and "paradigm" pulls up 710 hits.[9] A quick scroll reveals articles (all published since 2006) about criminal justice, legal history, copyright theory, free speech, "postmodernism" and legal writing, negligence, law and economics, negotiations, professional responsibility, and evolution. Paradigms are shifting all over the place.[10]

Aspects of this interesting and complicated relationship are reflected in the example of Larry Laudan. He is an influential and well-respected philosopher of science,[11] and his philosophical work has also been used to illuminate important related issues regarding scientific expertise and the philosophy of law.[12] At the same time, he has become an unlikely source for the defenders of creationism and "intelligent design," who have read much into his relatively benign point that philosophers of science disagree about the point at which science ends and nonscience begins.[13] This is highly ironic given that Laudan has written an excellent and enjoyable book for a general audience that introduces contemporary issues in the philosophy of science, in part to warn against the drawing of unwarranted "relativist" conclusions from the philosophical issues and theses.[14]

Now Laudan has turned directly to the epistemology of law, focusing on proof in criminal cases.[15] His project is not simply to apply or translate ideas from the scientific context, and indeed he leaves behind much of the

---

9. I performed this search of Westlaw's database of legal journals and law reviews on September 8, 2007.

10. Yes, I recognize the irony that this Review will now be on the list. And, of course, I am not making any claims about the quality of these articles.

11. His primary works include: LARRY LAUDAN, BEYOND POSITIVISM AND RELATIVISM: THEORY, METHOD, AND EVIDENCE (1996); LARRY LAUDAN, SCIENCE AND VALUES: THE AIMS OF SCIENCE AND THEIR ROLE IN SCIENTIFIC DEBATE (1984); and LARRY LAUDAN, PROGRESS AND ITS PROBLEMS: TOWARDS A THEORY OF SCIENTIFIC GROWTH (1978).

12. *See* Scott Brewer, *Scientific Expert Testimony and Intellectual Due Process*, 107 YALE L.J. 1535, 1572–75 (1998) (discussing Laudan's tiered model of scientific reasoning, including the factual, methodological, and axiological levels, for the purpose of applying Laudan's ideas to Brewer's investigation of legal reasoners' epistemic deference to expert scientists); Dennis Patterson, *Postmodernism/Feminism/Law*, 77 CORNELL L. REV. 254, 275 n.90 (1992) (citing LARRY LAUDAN, SCIENCE AND RELATIVISM (1990)) (referring to Laudan's "recent, intelligent, and quite lively discussion of the current state of philosophy of science").

13. *See generally* Larry Laudan, *Science at the Bar—Causes for Concern*, *in* BUT IS IT SCIENCE?: THE PHILOSOPHICAL QUESTION IN THE CREATION/EVOLUTION CONTROVERSY 351, 351 (Michael Ruse ed., 1996) (discussing the "Arkansas Creationism Trial," *McLean v. Arkansas Board of Education*, 529 F. Supp. 1255 (E.D. Ark. 1982), *aff'd*, 723 F.2d 45 (8th Cir. 1983), and noting that "although the verdict itself is probably to be commended, it was reached . . . by a chain of argument which is hopelessly suspect. Indeed, the ruling rests on a host of misrepresentations of what science is and how it works"); Francis J. Beckwith, *Rawls's Dangerous Idea?: Liberalism, Evolution and the Legal Requirement of Religious Neutrality in Public Schools*, 20 J.L. & RELIGION 423, 440–41 (2004) (discussing whether philosophy or science more appropriately answers questions relating to evolution and the origin of life).

14. *See* LARRY LAUDAN, SCIENCE AND RELATIVISM: SOME KEY CONTROVERSIES IN THE PHILOSOPHY OF SCIENCE (1990).

15. *See* LARRY LAUDAN, TRUTH, ERROR, AND CRIMINAL LAW: AN ESSAY IN LEGAL EPISTEMOLOGY (2006).

conceptual machinery of the philosophy of science. Rather, Laudan takes the epistemology of legal proof on its own terms, exposing to philosophical scrutiny the adjudication process as a mode of inquiry with the purported goals of discovering truth and avoiding errors. Laudan is not a lawyer, but he is a major philosopher who has spent his career thinking and writing more generally about facts, evidence, and knowledge. And despite not having any formal legal training,[16] he displays a sophisticated, nuanced, and impressive understanding of most of the legal issues discussed. Thus, possible objections along "not-a-lawyer" lines are quickly swamped by the clarity, rigor, and insight with which Laudan elucidates the epistemology of legal proof. The turn is, in short, a welcome and illuminating one.

It is illuminating along two different dimensions. First, evidence scholarship has become largely interdisciplinary, and the so-called New Evidence Scholarship has been exploring for some time the relationship between legal proof and probability theory (and, more generally, the nature and structure of the inferences involved in legal fact-finding).[17] This important work has been *implicitly* and *narrowly* epistemological in its focus on inferences from evidence. But notwithstanding the interdisciplinary turn in general and the focus on probability in particular, the scholarship has been less *explicitly* and *broadly* epistemological in the sense of trying to provide conceptual understanding of the process, its various components, and how they relate to the goal of accurate and justified conclusions.[18] Laudan provides understanding along this dimension and in doing so ends up largely rejecting the dominant trend in evidence scholarship—a reliance on probability theory to interpret the strength of evidence and the various decision standards.

The second dimension, more abstractly, concerns the philosophy of law. Legal philosophy has focused extensively on both general questions regarding the nature of law, its authority, obligations, and so on, and on issues regarding the moral or political foundations of specific substantive areas, such as criminal law, torts, and contracts. The epistemology of law, by contrast, has received considerably less attention. Laudan's book, which he

16. So far as I know.

17. *See* Roger C. Park & Michael J. Saks, *Evidence Scholarship Reconsidered: Results of the Interdisciplinary Turn*, 47 B.C. L. REV. 949, 984–97 (2006) (mentioning Bayes' theorem, a basic tenet of probability theory that can be used to adjust a probability assessment upon receiving new evidence, as one of the centerpieces of the New Evidence Scholarship).

18. For example, much of the scholarship (well summarized in Park & Saks, *supra* note 17, at 984–97) has focused on Bayesian approaches and probability theory more generally, but these approaches form only a small part of epistemology, and few efforts are made to tie the probability discussions to more-general epistemological issues. For examples of more-general epistemological discussions, see Ronald J. Allen & Brian Leiter, *Naturalized Epistemology and Law of Evidence*, 87 VA. L. REV. 1491, 1493 (2001) (discussing the application of naturalized epistemological theory to concepts in the law of evidence); Michael S. Pardo, *The Field of Evidence and the Field of Knowledge*, 24 LAW & PHIL. 321, 322 (2005) (discussing how epistemology intersects with, explains, and clarifies issues in the law of evidence); William Twining, *Taking Facts Seriously—Again*, 55 J. LEGAL EDUC. 360, 371–72 (2005) (discussing the importance of inferential reasoning and fact analysis in the context of teaching the subject of evidence).

describes as "a deliberate shot across the bow of the juggernaut that supposes that all or most of the interesting philosophical puzzles about the law concern its moral foundations or the sources of its authority,"[19] contributes much to this less developed area.

Taking on the epistemology of law is no easy task, however. Even showing that given the goal of accuracy, a specific procedure or rule is irrational, paradoxical, and archaic will likely prompt a response like the following famous United States Supreme Court dictum on the law of evidence:

> We concur in the general opinion of courts, textwriters and the profession that much of this law is archaic, paradoxical and full of compromises and compensations by which an irrational advantage to one side is offset by a poorly reasoned counterprivilege to the other. But somehow it has proved a workable even if clumsy system when moderated by discretionary controls in the hands of a wise and strong trial court. To pull one misshapen stone out of the grotesque structure is more likely simply to upset its present balance between adverse interests than to establish a rational edifice.[20]

Laudan is not convinced: "This is nothing but delusionally wishful thinking parading as sage advice."[21] He adds for good measure: "Wisdom seems to me to be in rather short supply in every walk of life. One ought no more to expect it from judges than from anyone else."[22] He is willing to pull stones. The book is his thought experiment of that journey.

This Review proceeds as follows. Part I describes, in three subparts, the book's structure and arguments. The first subpart explicates the basic concepts, distinctions, and principles that underlie the book's analysis. The second subpart discusses the book's analysis of error distribution. The issues in this subpart include the standard of proof (beyond a reasonable doubt), the burden of proof, and the presumption of innocence. Laudan launches a scathing attack on current understandings of the standard of proof, explains the features an appropriate standard ought to possess, and analyzes different understandings of the presumption of innocence. The third subpart discusses the book's analysis of error reduction. Laudan argues that many current evidentiary and constitutional rules ought to be eliminated or modified in order to improve the accuracy of the adjudicatory process. Part II offers some reasons to challenge the book's analysis with regard to error reduction. Part III attempts to extend the book's analysis with regard to standards of proof.

---

19. *See* LAUDAN, *supra* note 15, at 9.
20. Michelson v. United States, 335 U.S. 469, 486 (1948).
21. LAUDAN, *supra* note 15, at 231.
22. *Id.*

I. The Book's Structure and Arguments

Laudan describes his project as an example of "[a]pplied epistemology," in which one investigates whether systems of investigation, such as adjudication, "that purport to be seeking the truth are well engineered to lead to true beliefs about the world."[23] As a general matter, such investigations have both descriptive and normative components; the descriptive aspects elucidate which rules and procedures promote and which ones block the discovery of truth, and the normative aspects recommend modification of the rules and procedures that thwart the truth-seeking function.[24] In investigating the process of legal proof from this perspective, Laudan makes two animating assumptions. First, he assumes, taking the Supreme Court at its word, that the principal aim of the criminal trial is to find out the truth.[25] Second, he strips away considerations other than truth seeking from the process, including constitutional provisions and history, Supreme Court precedent, and common law traditions.[26] In other words, it is no objection to his initial inquiry about a rule's truth-thwarting effects that the rule has an otherwise unassailable pedigree. Making these assumptions, he is thus free to engage in a thought experiment about how the legal-proof process ought to proceed, given the principal aim of discovering truth. The model elaborated may then be compared with and used to evaluate current rules and practices.

The book proceeds by articulating basic concepts, distinctions, and principles, which are then used to evaluate the process of proof in light of two overarching goals: the reduction of errors and distribution of the errors that do occur. The latter involves the various procedural devices—most notably, the requirement of proof beyond a reasonable doubt—meant to minimize falsely convicting innocent defendants at the expense of acquitting some defendants who are probably guilty. The former involves the rules designed to promote the accuracy of verdicts—for example, evidence rules that render inadmissible evidence that is deemed to be unreliable or misleading.

A. Basic Concepts, Distinctions, and Principles

An investigation of this sort requires a great deal of initial conceptual work, and the book is extraordinarily clear and precise in articulating the basic categories, distinctions, and guidelines from which the analysis proceeds. Laudan begins by providing a taxonomy of the types of errors that can result from legal fact-finding. First, an error occurs whenever an innocent person is found guilty (an erroneous inculpatory finding) or a guilty

23. *Id.* at 2.

24. *Id.* at 3.

25. *Id.* at 6.

26. *See id.* ("I will try—until we have on the table a model of what a disinterested pursuit of the truth in criminal affairs would look like—to adhere to the view that the less said about rights, legal traditions, and constitutional law, the better.").

person is found not guilty (an erroneous exculpatory finding).[27] These are errors regarding the *material* guilt of the defendant.[28] A verdict that convicts a materially guilty defendant or acquits a materially innocent defendant is a *true* verdict; a *false* verdict convicts the materially innocent or acquits the materially guilty.[29] Second, an error occurs whenever the evidence presented establishes a proposition at issue to the applicable standard of proof and the jury does not find this fact to have been proven, or when the jury finds a fact even though the evidence does not satisfy the applicable standard of proof.[30] These are errors regarding the *probatory* guilt of the defendant.[31] Neither material nor probatory guilt implies the other—a defendant may be materially guilty and probatorily not guilty, or materially innocent and probatorily guilty.[32] A verdict that convicts a defendant when he is probatorily guilty or acquits when he is probatorily not guilty is a *valid* verdict; a verdict that convicts a probatorily not-guilty defendant or acquits a probatorily guilty defendant is an *invalid* verdict.[33] Invalid verdicts may arise because the fact finder either gave more or less weight to the evidence than it deserved or misunderstood the applicable standard of proof.[34] Following the material–probatory distinction, neither the truth value nor the validity of a verdict implies the other.

According to Laudan, the goal of the proof process is to produce a verdict that is both true and valid.[35] Misguided evidentiary or procedural rules can threaten either the truth or the validity of verdicts—that is, they may foster invalid or valid-but-false verdicts. They may do this either by producing inadequate evidential bases (which lead to valid-but-false outcomes) or by fostering faulty inferences from the evidence (which lead to invalid outcomes).[36] The legal system has failed when it produces an

27. *See id.* at 10 ("[E]rrors, in my sense, have nothing to do with whether the system followed the rules (the sense of 'error' relevant for appellate courts) and everything to do with whether judicial outcomes convict the guilty and free the innocent.").

28. *Id.* at 12.

29. *Id.* at 10–12.

30. *Id.* at 13.

31. *Id.* at 12–13.

32. *Id.* at 12.

33. *Id.* at 13.

34. *See id.* at 14 ("[C]ertain practices entrenched in our rules of evidence and procedure tend to produce invalid convictions and acquittals, that is to say, verdicts at odds with what a reasonable person—not bound by those rules—would conclude from the evidence available.").

35. *See id.* ("If the outcome of a criminal proceeding is erroneous in either of these respects—that is to say, if it is either false or invalid (or both)—the system has failed."). In addition to a verdict being true and valid, there should also be an appropriate connection between the truth and validity of the verdict. For example, suppose a verdict is valid based solely on perjured testimony, but the verdict just happens, coincidentally, to be true. This accidental connection should make the verdict a problem even though it is both true and valid. This is the familiar "Gettier problem" in epistemology. *See* Edmund L. Gettier, *Is Justified True Belief Knowledge?*, 23 ANALYSIS 121, 121–22 (1963) (illustrating that it can be the case that one does not know a proposition even though the proposition is true and one justifiably believes that it is true).

36. LAUDAN, *supra* note 15, at 14.

outcome that fails in either sense: by being false, invalid, or both.[37] These are the types of errors on which an applied epistemology ought to focus.

In addition to these considerations, Laudan also articulates a few general principles that apply to evidentiary and other procedural rules. With regard to admissibility, evidence is *credible* when there is reason to believe it is true or plausible, and evidence is *relevant* when, if credible, it makes a proposition at issue in the case more or less probable.[38] Because it is "universally agreed" outside of law that decisions are more likely to be accurate when the decision maker considers as much relevant evidence as possible, "every rule that leads to the exclusion of relevant evidence is epistemically suspect."[39] In terms of the above terminology, more relevant evidence makes true verdicts more likely, and excluding such evidence makes false verdicts more likely. Finally, procedural rules ought to respond to two additional epistemic demands: first, they must reduce the likelihood of producing invalid verdicts; second, the system as a whole should be "self-correcting" in the sense that it can discover and rectify (some of) the errors that do occur.[40]

B. Error Distribution and the Standard of Proof

Several evidentiary rules and rules of criminal procedure purport to regulate the process of proof by distributing errors in a way that protects defendants. In other words, they are not about maximizing accuracy; they are about making sure certain errors (those that favor guilty defendants) occur much more frequently than other errors (those that harm innocent defendants). The most significant of these error-distributing doctrines occur at the macro level of the proof process and regulate decisions about the strength of evidence in particular cases.[41] These include the burdens of proof, the benefit of the doubt, the presumption of innocence, and the beyond-a-reasonable-doubt standard of proof. Laudan articulates the relationships between these various concepts, and in doing so, he argues that the law has failed significantly in structuring the proof process to meet the goal of error distribution.

---

37. *Id.*

38. *Id.* at 17. Laudan sometimes uses *reliable* to mean *credible*. The definition of *relevant* tracks Federal Rule of Evidence 401.

39. LAUDAN, *supra* note 15, at 19.

40. *Id.* at 142.

41. Throughout the Review, I will often differentiate between macro-level and micro-level proof issues. Macro-level issues involve decisions about the strength of evidence as a whole (in proving relevant propositions); micro-level issues involve questions about the admissibility or exclusion of individual items of evidence.

1. The Failures of "Reasonable Doubt."—Although the standard of proof beyond a reasonable doubt (BARD) is constitutionally required,[42] Laudan finds current interpretations of the standard to be "grievously inadequate, deliberately unclear, [and] wholly subjective."[43] These failures are pervasive and systematic:

> The most earnest jury, packed with twelve people desirous of doing the right thing and eager to see that justice is done, are left dangling with respect to how powerful a case is required before they are entitled to affirm that they believe the guilt of the defendant beyond a reasonable doubt. In such circumstances, simply muddling on is not an attractive prospect.[44]

Because of this lack of guidance, the system lacks predictability and uniformity, and creates problems with regard to the validity of verdicts. It is thus "inherently unjust."[45]

The source of the problem is part historical and part conceptual confusion. The standard originally arose towards the end of the eighteenth century in connection with the notion of "moral certainty."[46] It was recognized that the kind of full deductive certainty available in logic and mathematics was unavailable when it came to judgments about human affairs (such as those that give rise to criminal trials); judgments in criminal cases required moral certainty, a standard contrasted with deductive certainty.[47] Beliefs that are morally certain "could not be proven beyond all doubt, but they were nonetheless firm and settled truths, supported by multiple lines of evidence and testimony."[48] This philosophical idea of moral certainty provided the original grounding and guidance for the BARD standard. Although the language of moral certainty still shows up in some jury instructions,[49] it is largely left unexplained, and the standard has been stripped of its original philosophical underpinnings.[50] Instead, BARD has, in its various articulations, been replaced with a focus on the subjective mental state of the decision maker. Laudan evaluates several of the most popular current interpretations of the standard, pointing out their individual flaws, and then

---

42. *See In re* Winship, 397 U.S. 358, 364 (1970) (holding that the Due Process Clause requires every element of a crime with which a defendant is charged be proven beyond a reasonable doubt).

43. LAUDAN, *supra* note 15, at 30.

44. *Id.* at 31.

45. *Id.*

46. *Id.* at 32–33; *see also* Barbara J. Shapiro, *"To a Moral Certainty": Theories of Knowledge and Anglo-American Juries 1600–1850*, 38 HASTINGS L.J. 153, 170–71 (1986) (tracing the origins of the reasonable-doubt standard to the historical notion of moral certainty).

47. LAUDAN, *supra* note 15, at 32–33.

48. *Id.* at 33.

49. *See, e.g.*, Victor v. Nebraska, 511 U.S. 1, 7 (1994) (reviewing the constitutionality of jury instructions in which the court defined reasonable doubt as the absence of an abiding conviction, to a moral certainty, of the truth of the charge).

50. *See id.* at 16–17 (discussing moral certainty without referring to its original philosophical context).

argues more systematically that the doctrinal move to the mental state of the decision maker is a conceptual mistake and a large source of the problem.[51]

Laudan finds the extant interpretations of BARD problematic because they give incorrect, misleading, unhelpful, or sometimes just plain incoherent guidance in applying the standard. First, jurors are sometimes instructed that BARD means the kind of certainty required for making important decisions in one's life.[52] Laudan points out, however, that most of the important decisions we make in life (jobs, medical procedures, relationships, etc.) are undertaken even though we may have considerable doubts.[53] Rarely, if ever, do we apply something like the BARD standard in our daily affairs, even for important matters. This interpretation is thus incorrect and misleading. Second, and similarly, jurors are sometimes told that reasonable doubts are those that would cause a prudent person to hesitate to act.[54] Again, even the most prudent among us often act even though we have reasonable doubts about those actions. Third, jurors are sometimes told that they must have an "abiding conviction" of the defendant's guilt in order to convict.[55] But this is either incoherent or wholly subjective.[56] It is incoherent if it requires a truly *abiding* conviction, which would be one that persists over time, because the juror is supposed to be forming his judgment about the defendant's guilt at that time.[57] Alternatively, it may just be a strongly held belief, but a strongly held belief may exist even when it is completely irrational or unsupported by the evidence, and the standard does not help jurors determine when it would be appropriate to have such a strongly held belief.[58] Fourth, Laudan also considers defining BARD as "high probability," but he rejects this approach, noting that there is no consensus as to what the probability should be, and more importantly, the determination of whether it has been met would again be too subjective.[59] Finally, Laudan considers the option of simply not defining BARD because jurors already intuitively understand it.[60] Given the confusions noted above, however, "almost every jury will contain jurors who

51. Jonathan Cohen has distinguished juror beliefs from what they "accept" on the ground that beliefs are involuntary, while agents have more control over what they choose to accept. *See* L. Jonathan Cohen, *Should a Jury Say What It Believes or What It Accepts?*, 13 CARDOZO L. REV. 465, 467, 475 (1991) (arguing that acceptance, not belief, should be applied to the Anglo-American beyond-a-reasonable-doubt standard). Laudan typically refers to juror beliefs, but nothing in his analysis appears to turn on the distinction.

52. LAUDAN, *supra* note 15, at 37–38.

53. *Id.* at 38 (citing COMM. ON THE OPERATION OF THE JURY SYS., JUDICIAL CONFERENCE OF THE U.S., PATTERN CRIMINAL JURY INSTRUCTIONS 18–19 (2d ed. 1987)).

54. *Id.* at 37–38.

55. *Id.* at 38–40.

56. *Id.* at 39.

57. *Id.* We don't, for example, ask jurors a month later whether they are still convinced the defendant is guilty.

58. *Id.* at 39–40.

59. *Id.* at 44–47.

60. *Id.* at 47–51.

bring inappropriate construals of [BARD] to the table."[61] The failure to clarify is thus "unconscionable."[62] Given these failures, "our criminal justice system is blind, not in the customary and commendable sense of being impartial, but in the more literal sense of not knowing what it is doing or where it is going."[63]

These individual failures manifest a larger conceptual problem with the BARD standard. The problem is that the standard, as construed, focuses on the subjective mental states of the decision makers rather than on the objective features of the evidence that would make conclusions about that evidence rational or reasonable.[64] In other words, the BARD interpretations get things exactly backward. As a general matter, a decision standard should specify when the decision maker is entitled to infer a belief or conclusion from the evidence; asking decision makers to consult how strongly they already believe the proposition at issue tells them nothing about whether those beliefs are warranted.[65] Laudan asks us to imagine a scientist defending a theory or a mathematician defending a theorem on the ground that she believes it strongly and without hesitation.[66] The absurdity is apparent in these examples, and it should be no less apparent when examining the structure of legal proof. In areas of life where inquiry is aimed at discovering truth, "the advice offered to ensure that such inquiry is rational specifies the kinds of evidence, tests, or proofs necessary for a well-founded belief."[67] And the question of how strongly evidence supports a theory of guilt is "a question about relations between (statements describing) events," not merely about the minds of jurors.[68] The various BARD interpretations are "vacuous" or "unsatisfactory" because they do not talk about the structure of proof; they fail "to acknowledge that persuasion is a process of *reasoning through the evidence*."[69] Instructions give little advice as to how to proceed with this reasoning task.[70] A better standard would be defined "in terms of the features of the case needed to convict."[71]

---

61. *Id.* at 50.

62. *Id.*

63. *Id.* at 51. Although the approaches Laudan considers suffer from a similar problem, some are better than others. *See* Lawrence M. Solan, *Refocusing the Burden of Proof in Criminal Cases: Some Doubt About Reasonable Doubt*, 78 TEXAS L. REV. 105 (1999) (defending a "firmly convinced" instruction over other possibilities in light of empirical, linguistic, and philosophical analyses).

64. *Id.* at 51–52.

65. *Id.* at 52.

66. *Id.* at 51–52.

67. *Id.* at 52.

68. *Id.* at 53.

69. *Id.* at 52.

70. But instructions sometimes tell juries what not to do, e.g., flip coins or count witnesses. *See* COMM. ON PATTERN JURY INSTRUCTIONS, JUDICIAL COUNCIL OF THE ELEVENTH CIRCUIT, PATTERN JURY INSTRUCTIONS (CRIMINAL CASES) 11 (2003) (instructing jurors that "the number of witnesses testifying concerning any particular dispute is not controlling"); TASK FORCE ON JURY

2. Locating an Appropriate Proof Standard.—Laudan does not provide a detailed alternative decision standard for criminal cases, but he does discuss in great detail the features that an appropriate standard should possess. The "height" of the standard needs to not be arbitrary: the standard needs to incorporate the appropriate benefit of the doubt given to criminal defendants, and it should guarantee that no more innocent defendants will be falsely convicted than society finds acceptable.[72] In order to achieve these goals, the standard should be clear enough for lay jurors to understand and apply, and it should focus on objective features of the evidence presented (rather than on purely subjective considerations).[73]

The most important, but also the most difficult, aspect of devising a standard of proof for criminal cases is capturing a socially acceptable ratio of false convictions to false acquittals. The first difficulty would be figuring out what that ratio should be. A good starting point is Blackstone's ratio of 10 to 1,[74] but higher or lower ratios may be preferred. Laudan assumes that the ratio ought to be arrived at by some sort of social contract.[75] The second difficulty would be formulating a decision standard that produces this ratio. How the law tries to resolve this second difficulty is a ripe topic for epistemological evaluation.

A useful starting point for this evaluation is the "preponderance of the evidence" standard in civil cases. If we assume that the evidence in a case usually favors the party whose claims are factually true, then the preponderance standard will minimize the total number of errors.[76] The claims of deserving plaintiffs will usually satisfy the standard, and the claims of undeserving plaintiffs will not. To think about this in cardinal-probability terms, on a scale between 0 and 1, accepting allegations when they are proven beyond 0.5 and not accepting them when they are at or below 0.5 will mean accepting allegations that are probably true and rejecting claims that are probably false or in equipoise. Assuming that evidence tracks the truth and that it has been properly evaluated, this standard will minimize the total number of errors over the long run. The criminal standard, by contrast, requires more proof to convict; it will require acquitting some defendants even when, based on the evidence, they are probably guilty. In probability

---

INSTRUCTIONS, JUDICIAL COUNCIL OF CAL., CIVIL JURY INSTRUCTIONS 19 (2000) ("You must not base your decision on chance or a flip of a coin.").

71. LAUDAN, *supra* note 15, at 52.

72. *Id.* at 64.

73. *Id.* at 87.

74. *See* 4 WILLIAM BLACKSTONE, COMMENTARIES *352 ("[I]t is better that ten guilty persons escape, than that one innocent suffer.").

75. LAUDAN, *supra* note 15, at 72.

76. *See* Richard S. Bell, *Decision Theory and Due Process: A Critique of the Supreme Court's Lawmaking for Burdens of Proof*, 78 J. CRIM. L. & CRIMINOLOGY 557, 572 (1987) (noting that a preponderance of the evidence standard apportions errors equally between plaintiffs and defendants, and that any other standard of proof would create more errors).

terms, raising the standard from 0.5 to 0.91 (which reflects the 10-to-1 ratio) will mean acquitting even when the proof is somewhere between 0.5 and 0.91, and thus guilt is more probable than not. The purpose of the standard is thus not to reduce the total number of errors; it is to skew the errors that do occur against the prosecution and in favor of criminal defendants.[77]

One proposed solution might be to just specify the probability that captures the appropriate ratio; say, for simplicity's sake, 0.9. But this approach fails for several reasons. Such a standard would be insufficient to produce the right ratio if the evidence presented was not sufficiently robust and if the jury drew invalid inferences from it.[78] In such cases it is less likely that the apparent guilt or innocence based on the evidence would track the truth. These problems could, at least in theory, be remedied with various evidentiary devices, such as evidence rules, instructions, directed verdicts, sufficiency-of-the-evidence standards, and appellate-review standards. And many of these devices are designed precisely to control the evidential bases on which decisions are made and the conclusions jurors infer from the evidence. A more serious problem, however, is that the ratio produced by the standard depends on the ratio of truly guilty to truly innocent defendants who go to trial.[79] Laudan offers the following illuminating example.[80] Suppose that we have 50 trials, and that 10 defendants are truly guilty and 40 defendants are truly innocent. Using a standard of 0.9 (assuming a ratio of approximately 10 to 1), we would expect that 10% of the truly innocent defendants will be convicted, or 4 of them. Given a ratio of 10 to 1, we should expect 40 false acquittals to correspond with these 4 false convictions. But in the group, there are only 10 truly guilty defendants. Therefore, even if the jury falsely acquits all of them, the best ratio the standard will produce is 10 to 4, not a ratio near 10 to 1. Thus, fixing the standard based on the probability that reflects the appropriate ratio will not guarantee "that real trials will exhibit this ratio of errors, or anything close to it."[81]

Laudan argues that the solution to this problem lies in a different ratio. Rather than comparing false convictions with false acquittals, we should focus on the ratio of false convictions to *true* acquittals.[82] In other words, we should focus solely on the truly innocent defendants. We should compare how many the system correctly acquits and how many it incorrectly convicts, and we should then develop a standard that captures the socially accepted ratio based on these considerations.[83] This ratio appears to avoid the flaw

77. *See* LAUDAN, *supra* note 15, at 68 ("[A] standard of proof is best conceived as a mechanism for distributing errors." (emphasis omitted)).

78. *Id.* at 73.

79. *Id.* (citing Ronald J. Allen, *The Restoration of In re* Winship, 76 MICH. L. REV. 30, 47 (1977)).

80. *Id.* at 73–74.

81. *Id.* at 74.

82. *Id.* at 74–76.

83. *Id.* at 74–75.

facing the above ratio because it will not matter how many truly innocent and truly guilty defendants come to trial; no matter how many innocent defendants come to trial, the standard ought to achieve the proper ratio among that group.[84] Thus, in the previous example, if we want a ratio that will produce 10 true acquittals for every false conviction, the 0.9 standard would be slightly too low because along with 4 false convictions it would have produced 36 true acquittals (or 9 true acquittals for every false conviction). And if there were only 10 truly innocent defendants, it would have produced 1 false conviction and 9 true acquittals (maintaining the same ratio). This does not make the truly guilty defendants irrelevant, however. Fixing the standard based on Laudan's proposed ratio will still have the same consequences of distributing errors among all defendants.[85] And it is for this reason that concerns about punishing the truly guilty and the need for sufficient deterrence act as "side constraints" on debates about the appropriate ratio—too high of a ratio of true acquittals to false convictions means there will be a corresponding amount of false acquittals.[86] These considerations come into play in fixing the ratio, but focusing on the truly innocent provides a more stable way to set the standard.[87]

Identifying how to fix the standard is one thing; identifying what that standard should be is another. Ultimately, this is an empirical question—the standard should be whatever would produce or come closest to producing the appropriate ratio.[88] But in the absence of such knowledge, which would be extremely difficult to obtain (and to test for), any standard ought to at least be clear and concise enough for jurors to understand and apply, and it ought to be focused on features of the evidence presented, not simply on the subjective mental states of the decision makers.[89] The current manifestations of BARD fail based on these considerations; because of the disarray and the subjective nature of the standard, there is no reason to think it achieves a ratio of errors anywhere near what is socially acceptable.[90]

---

84. *Id.* at 75. The concerns about the robustness of the evidence and jurors drawing appropriate inferences would remain, however. *See supra* note 78 and accompanying text.

85. *See* LAUDAN, *supra* note 15, at 75.

86. *Id.*

87. *Id.*

88. *Id.* at 85. Identifying what the standard should be under Laudan's scheme appears to raise some of the same problems his alternative proposal is attempting to avoid. First, the standard would need produce the desired ratio *based on an appropriate response to the evidence*—a properly weighted random procedure, for example, could produce the appropriate ratio, but this would be an inadequate decision standard. Second, in fixing the standard, we would also need a sense of the number of innocent defendants who are brought to trial. Our sense of how difficult it should be to convict an innocent defendant will no doubt be affected by how often innocent defendants are in fact forced to stand trial (given the fact that the standard will apply to guilty defendants as well).

89. *Id.* at 87.

90. *Id.*

Laudan next considers whether a better way would be to articulate the standards in terms of probabilities.[91] He recognizes that probability notions are a useful heuristic device for understanding how standards behave (such as the use employed above), but he ultimately rejects attempts to articulate standards in probabilistic terms because they lead to the same subjectivist problems as the other extant interpretations.[92] Even if jurors could accurately measure in probabilistic terms the confidence they feel in the proof of certain propositions, the standard does not tell them whether these beliefs are reasonable.[93] Thus, even if the standard on its face embodies the appropriate ratio, it may be difficult to implement, and more importantly, because of its subjective nature, there is no reason to think it would in fact produce an appropriate ratio of factual errors.

Laudan suggests, but does not develop in detail, three possibilities for improving the standard by focusing it on the evidence offered:

1. "If there is credible, inculpatory evidence or testimony that would be very hard to explain if the defendant were innocent, and no credible, exculpatory evidence or testimony that would be very difficult to explain if the defendant were guilty, then convict. Otherwise, acquit."[94]
2. "If the prosecutor's story about the crime is plausible and you can conceive of no plausible story that leaves the defendant innocent, then convict. Otherwise, acquit."[95]
3. "Figure out whether the facts established by the prosecution rule out every reasonable hypothesis you can think of that would leave the defendant innocent. If they do, convict; otherwise, acquit."[96]

---

91. *Id.* at 76–81.

92. *Id.* at 77 ("[W]e can learn a great deal about how a [standard of proof] behaves . . . by drawing on . . . probability and statistics. But like Ludwig Wittgenstein's famous ladder that we use for climbing a wall and then—having reached the top—discard, the technical discourse of probabilities is now best laid aside as a tool for formulating a standard of proof.").

93. Scholars often use Bayes' theorem as a constraint for assessing the rationality of jurors' probability assessments. *See, e.g.*, Dale A. Nance & Scott B. Morris, *An Empirical Assessment of Presentation Formats for Trace Evidence with a Relatively Large and Quantifiable Random Match Probability*, 42 JURIMETRICS J. 403, 404–05 (2002) (indicating that Bayes' theorem is used by most modern studies to derive the normative effect of additional evidence); Dale A. Nance & Scott B. Morris, *Juror Understanding of DNA Evidence: An Empirical Assessment of Presentation Formats for Trace Evidence with a Relatively Small Random-Match Probability*, 34 J. LEGAL STUD. 395, 400 (2005) (describing the authors' use of the rule to generate normative measures of the probability of guilt in a case and to determine the probability of guilt that respondents should give after being informed of specific evidence). But these critiques fail to tell us whether juror conclusions are reasonable or not in the sense of being more likely to be accurate or erroneous. *See* Ronald J. Allen & Michael S. Pardo, *The Problematic Value of Mathematical Models of Evidence*, 36 J. LEGAL STUD. 107, 135 (2007) (concluding that epistemological limitations resulting from the context in which evidence is presented limit the utility of mathematical models in capturing its probative value).

94. LAUDAN, *supra* note 15, at 82.

95. *Id.*

96. *Id.* at 83.

Again, it would be an open question whether any of these standards would lead to an appropriate ratio over the long run, but Laudan offers two reasons to think they will fare better than the current approaches or a probability approach: (1) they are clearer, more understandable, and easier to apply, and (2) they focus on features of the evidence presented,[97] requiring "powerful inferential link[s]" between the evidence and guilt before convicting.[98] A simpler instruction that focuses on objective features of the evidence is likely to lead to fewer mistakes than what we currently have or than probability judgments.

3. Burdens of Proof and the Presumption of Innocence.—A final puzzle regarding error distribution concerns burdens of proof and the presumption of innocence. Jury instructions often run together the two ideas that the prosecution has the burden of proof and that the defendant benefits from a presumption of innocence.[99] But the instructions, and legal doctrine in general, are not clear on what this presumption consists of and what work, if any, it does.[100] Most importantly, it is not clear whether the presumption of innocence refers to innocence in the material or probatory sense.[101] Laudan argues that it should be innocence in the probatory sense. Supposing that jurors have a presumption of material innocence makes no sense for two reasons. First, jurors are never called upon in criminal cases to issue a decision about the material innocence of the defendant.[102] Jurors are asked to make findings about probatory guilt or probatory innocence (that is, not guilty).[103] And while a finding of probatory guilt implies material guilt, a finding of probatory innocence (not guilty) does not imply material innocence.[104] Thus it would be odd to tell a decision maker to presume something that will not then factor into the decision-making options.[105]

But there is a deeper conceptual problem with a presumption of material innocence. Telling jurors to presume a defendant is materially innocent until he has been proven guilty BARD (that is, proven probatorily guilty) makes no sense.[106] Suppose, for example, a jury has just convicted a defendant, convinced he is probatorily guilty. Beginning with a presumption of material innocence, there has to be a point at which each juror thought the defendant

97. *Id.* at 87.

98. *Id.* at 81.

99. *Id.* at 90 n.4.

100. *Id.* at 91.

101. *Id.* at 90–109.

102. *Id.* at 96.

103. *Id.*

104. *Id.*

105. *See id.* at 98 ("[F]rom the moment when the jury receives the PI instruction forward, references to [material] innocence disappear from the trial, rarely if ever to resurface . . . . [Material] innocence is an idle wheel in most of the machinery of justice.").

106. *Id.* at 102.

was probably materially guilty but not yet guilty BARD (probatorily guilty).[107] The material-innocence presumption would only make sense if jurors' beliefs magically flipped from material innocence to guilty BARD without any intermediate states.[108] This seems to be wholly at odds with both how jurors reason from evidence and how humans do so in general.[109]

The presumption of innocence is thus better understood as a presumption of probatory innocence.[110] In other words, the presumption is that at the start of trial there is no inculpatory evidence and that the government has the burden of producing inculpatory evidence sufficient to satisfy the decision standard. The presumption is not redundant, given the burden of proof. The presumption adds a "blank-slate" element to the burden: Jurors must assume that the epistemic slate is blank at the start of the trial—they should start with no prior beliefs or presumed beliefs about the guilt of the defendant (for example, because he was arrested, indicted, and brought to trial).[111] This blank-slate interpretation also accords with an objective standard that focuses on features of the evidence presented—the focus should not be on confidence of material guilt or innocence but on whether the evidence the prosecution presents exhibits the features that warrant an inference of probatory guilt.[112]

Finally, Laudan argues that the above considerations regarding burdens and the presumption of innocence entail that defendants should never have the burden of proving affirmative defenses, such as insanity, self-defense, or consent. Once we have set an appropriate criminal standard with regard to errors, the prosecution should have to prove any necessary issue, whether it is called an element or defense, in order to maintain the appropriate socially acceptable ratio of errors.[113] To establish such a standard and then not to apply it to an issue that the legislature has deemed matters for whether a defendant ought to be convicted is "to fall into babbling incoherence" and "is unjust."[114]

---

107. Or, if you prefer the heuristics of probability talk, at some point there must have been a confidence level between 0.5 and, say, 0.91.

108. LAUDAN, *supra* note 15, at 102.

109. I think a few moments of reflection will gradually convince unconvinced readers of this conclusion.

110. LAUDAN, *supra* note 15, at 103–06.

111. *Id.* at 110.

112. *Id.* at 105–06. This conclusion creates problems for probability approaches, which have to assume some prior positive probability of guilt to get off the ground. *See, e.g.*, Alvin I. Goldman, *Quasi-Objective Bayesianism and Legal Evidence*, 42 JURIMETRICS J. 237, 253–54 (2002) ("First, one would need to specify the appropriate prior [degree of belief in guilt], which would represent the presumption of innocence."); Richard A. Posner, *An Economic Approach to the Law of Evidence*, 51 STAN. L. REV. 1477, 1514 (1999) (arguing that Bayes' theorem acts as a reminder that the impact of new information on one's ultimate conclusion depends on the probability one estimated before beginning to consider evidence).

113. LAUDAN, *supra* note 15, at 110–14.

114. *Id.* at 113. He acknowledges, however, that some affirmative defenses—a statute-of-limitations defense, for example—implicate a different set of standards and burdens because they do

C. Error Reduction and the "Principle of Indifference"

Once an appropriate decision standard has been fixed to distribute errors between defendants and the prosecution, the next task for evidentiary and procedural rules is to reduce the total number of errors that occur. For Laudan, evidence rules regulating admissibility ought to ensure that "[t]he triers of fact—whether jurors or judges in a bench trial—should see all (and only) the reliable, nonredundant evidence that is relevant to the events associated with the alleged crime."[115] The more relevant evidence the jury sees, the more likely that the *apparent* guilt or innocence of the defendant based on the evidence will be a good indicator of the *true* guilt or innocence of the defendant.[116] In other words, the more complete and robust the evidence, the fewer adjudicative errors. Laudan acknowledges that if "we were to discover that there is a certain kind of relevant evidence (hearsay, for example) whose importance juries are apt to overestimate, then excluding it might be appropriate."[117] But we lack robust empirical evidence to this effect,[118] and any rule that excludes relevant evidence is "epistemically suspect."[119] Our default assumption, Laudan argues, "should be that relevant evidence is admissible."[120] These views are not new; they largely track the views of Jeremy Bentham.[121] Laudan thus argues that on epistemic grounds, we ought to give more, not less, power to juries to hear all the relevant evidence in criminal cases. In addition to raising these epistemic concerns for producing *true* verdicts, he suggests that procedural rules also ought to reduce the likelihood of *invalid* verdicts and that the system ought to have mechanisms for discovering and correcting errors that do occur.[122]

Although Laudan's Benthamite views regarding the rules of evidence will be controversial among some lawyers, judges, and evidence scholars, his

---

not concern guilt or innocence. *Id.* at 114 n.57. Alex Stein has made the related argument that "excuses" are appropriate issues for which to place the burden of persuasion on defendants, while "justifications" are not because of the differing costs of errors with regard to each. *See* ALEX STEIN, FOUNDATIONS OF EVIDENCE LAW 180–83 (2005).

115. LAUDAN, *supra* note 15, at 121. He also suggests that "reliability" may be better left to juries. *Id.* at 120.

116. *Id.* at 118–19.

117. *Id.* at 120. Laudan argues that if empirical research were to demonstrate that instructions and arguments from respective counsel are not enough to correct such overestimation, then it would be time to reconsider the epistemic desirability of juries: "If it is really true that trial by jury requires the wholesale exclusion of so much relevant evidence, then we should think again about the advisability of trial by jury." *Id.* at 215.

118. *Id.*

119. *Id.* at 19.

120. *Id.* at 215.

121. *See* 5 JEREMY BENTHAM, RATIONALE OF JUDICIAL EVIDENCE, SPECIALLY APPLIED TO ENGLISH PRACTICE 3 (London, Hunt & Clark 1828) ("In regard to evidence, admission, non-exclusion (it has already been shewn), is the general rule. Evidence is the basis of justice: exclude evidence, you exclude justice."). For a recent discussion and critique of the Benthamite position, see STEIN, *supra* note 114, at 183–97.

122. LAUDAN, *supra* note 15, at 141–42.

discussion of constitutional criminal procedure rules will be even more so. Many of the constitutional rights given to criminal defendants under the Fourth, Fifth, and Sixth Amendments are justified not on the ground that they reduce errors in criminal cases but instead are often justified on the ground that in particular they protect *innocent* defendants from *false* convictions.[123] In a manner likely to get the blood boiling of all Warren Court acolytes, Laudan argues that from an epistemic standpoint these rules are sadly misguided—and they should be eliminated or their scope severely diminished. According to Laudan, the benefit of the doubt given to criminal defendants to reduce the number of false convictions should be incorporated into the standard of proof, which should produce an acceptable number of true acquittals to false convictions.[124] Period. In other words, once we have a standard that produces an acceptable ratio of errors, we ought to strive to reduce the total number of errors while being indifferent to whether these errors favor defendants or the prosecution.

This last point is what Laudan terms the principle of indifference, which ought to drive all evidentiary and procedural rules once the standard of proof has been set.[125]

He explains:

> [O]nce such a SoP [an appropriate standard of proof] has been settled, all our subsequent deliberations should be concerned with reducing errors rather than further distributing them. Having selected a SoP [standard of proof] that should make us indifferent to whether someone is acquitted or convicted, we have no conceivable incentive for trying to reduce still further the frequency of false convictions, if the price we thereby pay is increasing the frequency of false acquittals. Indifferent to whether a trial ends in acquittal or conviction, our only remaining concern should be with error reduction, not with error distribution.[126]

This concern for error reduction should be performed in a manner of "[p]robatory even-handedness" between the parties, and for the epistemic

---

123. *See, e.g.*, Johnson v. Zerbst, 304 U.S. 458, 462 (1938) ("Provisions of [the Sixth] and other Amendments were submitted . . . as essential barriers against arbitrary or unjust deprivation of human rights. The Sixth Amendment stands as a constant admonition that if the constitutional safeguards it provides be lost, justice will not 'still be done.'"); Twining v. New Jersey, 211 U.S. 78, 91 (1908) ("The exemption from . . . disclosure as a witness of evidence against oneself . . . was generally regarded then, as now, as a privilege of great value, a protection to the innocent, though a shelter to the guilty, and a safeguard against heedless, unfounded, or tyrannical prosecutions."); Boyd v. United States, 116 U.S. 616, 629 (1885) ("It is very certain that the law obligeth no man to accuse himself; because the necessary means of compelling self-accusation, falling upon the innocent as well as the guilty, would be both cruel and unjust; and it would seem, that search for evidence is disallowed upon the same principle. Then, too, the innocent would be confounded with the guilty." (quoting Entick v. Carrington & Three Other Kings Messengers, 19 How. St. Tr. 1029, 1073 (K.B. 1765) (Eng.))).

124. LAUDAN, *supra* note 15, at 124–36.

125. *Id.* at 124.

126. *Id.*

reasons noted above, it ought to produce as much relevant evidence as possible for the fact finder.[127] Additional rules that are meant to further protect criminal defendants mix in more error-*distribution* considerations than is necessary.[128] The standard of proof already incorporates all of the benefit of the doubt to which criminal defendants are entitled. If that standard is at an appropriate level, then further rules that distribute errors in favor of defendants are a kind of "double counting" that gives defendants more benefit of the doubt than society considers appropriate.[129] If, on the other hand, we conclude that the current distribution is problematic in that it does not protect criminal defendants enough, the remedy is to raise the standard of proof, not to mix distributionists' concerns between additional evidentiary and procedural rules and the standard of proof. By centering all of the benefit of the doubt in the standard of proof, we can ensure "compliance with sound public policy . . . by localizing all benefits of the doubt to those areas of trial procedure where we can calibrate how heavily the scales of justice are tilted in the defendant's favor."[130]

Laudan illustrates the stark decision that underlies, and ultimately the justification for, the principle of indifference with the following example.[131] Consider an innocent defendant facing trial. If the system has been designed appropriately with regard to error distribution, there will be a slight chance that he will be wrongly convicted (assume 5%).[132] Given the presumption of innocence, the prosecution will have to put forth evidence that establishes his probatory guilt, and the jury must start with a clean epistemic slate (with no prior beliefs about the likelihood of the defendant's guilt).[133] If convicted, a system of appeals will be in place to try and correct the errors that do occur. The innocent defendant's and society's interests are now aligned—everyone wants the defendant acquitted and the system thus far has been designed to lead to that outcome.[134] But the defendant is still worried about the prospect that he will be convicted and the conviction not overturned on appeal.[135] He wants an additional evidentiary rule that will keep out some of the inculpatory evidence that the prosecution plans to introduce.[136] His interests now move away from society's interests and align with those of guilty defendants.[137] A rule further excluding a type of inculpatory evidence would

127. *Id.*
128. *Id.* at 124–36.
129. *Id.* at 128.
130. *Id.* at 127.
131. *Id.* at 124–25.
132. *Id.*
133. *Id.* at 125.
134. *Id.*
135. *Id.*
136. *Id.* There must be some inculpatory evidence; otherwise, he would not have been brought to trial.
137. *Id.*

surely help this defendant, but also lots of guilty ones.[138] It would acquit a few innocent defendants and many more guilty ones. Thus it would create more errors, and more errors favoring guilty defendants. As a consequence, it would raise the distribution of errors beyond the socially-agreed-upon limit. Because we should be indifferent to error distribution and concerned instead with error reduction, and because admitting relevant evidence improves error reduction, we should admit the evidence, even though it increases the chances that our innocent defendant will be convicted.[139]

For these reasons, *any* rule other than the standard of proof that works to give further protection to criminal defendants is for Laudan a misguided attempt at unwarranted error distribution. It is epistemically problematic regardless of whether the justification for the rule rests on error-reduction or error-distribution grounds. It is problematic on reduction grounds because it keeps relevant evidence from the jury; it is problematic on distribution grounds because it is "double counting," raising the benefits to criminal defendants beyond what is socially acceptable. Laudan's list of rules that violate the principle of indifference is long indeed.[140] He identifies some problematic proprosecution rules, but the vast majority are prodefendant rules that inappropriately introduce additional error-distribution considerations into the proof process.

Laudan identifies two categories of problematic prodefendant rules. The first category includes constitutional criminal procedure rules and the second includes nonconstitutional rules of evidence and procedure. The problem with the rules in these categories is that they introduce further error-distribution concerns into the process and cause more total errors to occur. On the constitutional side, the three biggest violators are the rules excluding inculpatory statements from defendants,[141] the rules excluding illegally seized evidence,[142] and double jeopardy.[143] With regard to witness statements, Laudan objects to the rules (1) excluding inculpatory statements made during custodial interrogation without *Miranda* warnings;[144] (2) excluding as inculpatory evidence at trial the fact that the defendant refused to answer questions during custodial interrogation;[145] and (3) preventing the jury from drawing adverse inferences for a defendant's decision not to testify at trial.[146] These rules would be justified if guilty and

138. *Id.* It seems to be a reasonable assumption that there will be more inculpatory evidence against guilty defendants than innocent ones.

139. *Id.*

140. *See id.* at 136–37.

141. *Id.* at 172.

142. *Id.* at 185.

143. *Id.* at 194–212.

144. *Id.* at 136.

145. *Id.* at 157.

146. *Id.* at 129–30, 155–56. Laudan also criticizes the privilege against self-incrimination more generally. *See id.* at 150–54 (noting that police investigation is hampered if anyone with

innocent defendants were equally likely to make such statements[147] or to refuse to answer questions or testify—this would make the evidence irrelevant to proving guilt. But these conditions are implausible in this context.[148] Laudan objects to the exclusionary rule for illegally seized evidence and evidence derived from such illegally seized evidence (the "fruit of the poisonous tree" doctrine) on similar grounds.[149] Excluding such evidence from the point of view of error reduction would make sense only if such evidence were equally likely to come from innocent and guilty defendants, which again is implausible. Finally, Laudan objects to the Double Jeopardy Clause's ban on appeals by the prosecution during or after trial.[150] Allowing such appeals would allow appellate courts to correct errors due to erroneous evidentiary rulings, which would reduce the total number of invalid and false verdicts (assuming the evidence rules are themselves truth conducive).[151]

In addition to these constitutional rules, Laudan objects to several other prodefendant evidentiary and procedural rules. These include (1) the defendant's control over whether character evidence may be introduced,[152] (2) the various evidentiary privileges,[153] (3) hearsay rules,[154] and (4) the defendant's control over the discovery process.[155] The first three keep the jury from seeing relevant evidence, and therefore, Laudan argues, they lead to more false verdicts in favor of guilty defendants.[156] The fourth allows guilty criminal defendants to prevent or delay the prosecution from obtaining inculpatory evidence or preparing to respond to purported exculpatory evidence.[157] Like with the constitutional rules, these rules are justified, in

---

information about a crime, let alone the suspect, refuses to tell what she knows, and that the silence of the defendant almost always thwarts the jury's fact-finding efforts).

147. *Id.* at 159. This would be the case with truly coerced confessions, for example; both innocent and guilty defendants will confess to make abusive interrogation techniques stop.

148. Perhaps, though, not talking during interrogation is the least relevant. Even innocent savvy suspects know that it is not in their interest to participate in interrogation.

149. LAUDAN, *supra* note 15, at 138, 185–93.

150. *Id.* at 194–206.

151. Laudan accommodates the possibility of jury nullification by limiting appeals to those based on judicial rulings rather than jury findings. *Id.* at 204.

152. *Id.* at 137–40.

153. *Id.* at 164–69.

154. *Id.* at 137. Laudan refers to the "inadmissibility of hearsay evidence," *id.*, but the scope of what he has in mind is not entirely clear. Hearsay is frequently admitted against criminal defendants under the numerous exemptions and exceptions. *See* FED. R. EVID. 801(d)(2), 803–804, 807. Perhaps he has in mind the recent Confrontation Clause decisions (*Crawford v. Washington*, 541 U.S. 36 (2004) and *Davis v. Washington*, 126 S. Ct. 2266 (2006)), in which the Court limited the extent to which "testimonial" hearsay may be admitted against criminal defendants. But the exclusion of such evidence may in fact serve an epistemic purpose if it induces the introduction of better evidence (live testimony rather than out-of-court hearsay). *See infra* notes 198–201 and accompanying text.

155. LAUDAN, *supra* note 15, at 143.

156. *Id.* at 137–40, 164–69.

157. *Id.* at 143.

part, by the extra benefits they give to innocent defendants.[158] But as with the constitutional rules, Laudan rejects this strategy.[159] He argues that while each of the prodefendant rules does slightly reduce the number of false convictions, they also significantly increase the number of false acquittals.[160] They thus raise the distributionists' ratio above what is acceptable and violate the principle of indifference's concern for error reduction.[161] His general view regarding these rules may be summed up with the following quote:

> Someone argues against a particular rule or policy by noting that it has a tendency, however slight, to increase the rate of false convictions. That alone is taken as sufficient to discredit the policy in question. We have also seen, however, that such an argument, standing alone, is woefully incomplete. When appraising any judicial rule or practice, we need to estimate its aggregate effect on truth seeking and error reduction. Is a given policy likely to vastly reduce the number of false acquittals while bringing only a minor increase in false convictions? Such a policy would surely be wise to adopt.[162]

Although much of the error-reduction discussion focuses on prodefendant rules, Laudan also identifies some proprosecution rules that are problematic in terms of error reduction. The first, discussed above, concerns affirmative defenses that defendants have the burden of proving, typically under a preponderance standard.[163] This leads to more false convictions than those authorized by the socially accepted ratio incorporated in the standard of proof, essentially lowering that ratio in much the same way that the prodefendant rules raise it.[164] Other proprosecution rules raise the total number of errors by keeping relevant evidence from the jury that would lead to more true verdicts. These include (1) the defendant's inability to force a witness who invokes the privilege against self-incrimination to testify after a grant of immunity (an option enjoyed by the prosecution);[165] (2) the limited discovery that the prosecution must provide;[166] and (3) presumably, the exclusion of any exculpatory evidence because of the hearsay, character, or privilege rules.[167] More generally, certain antidefendant rules are truth thwarting

158. *Id.* at 123.

159. *Id.* at 124.

160. *See id.* at 125 ("[Many legal experts] believe that pro-defendant bias should be incorporated in *all* the elements of a [trial] . . . with a view to narrowing still further the risks of convicting the innocent. They do this while conceding that such concessions will help far more guilty defendants than innocent ones.").

161. *Id.* at 123–24.

162. *Id.* at 204 (discussing double jeopardy).

163. *Id.* at 110.

164. *Id.* at 112.

165. *Id.* at 162.

166. *Id.* at 127 n.8.

167. *See id.* at 136–37 (listing rules of evidence that do not help reduce errors). Laudan primarily discusses these exclusionary rules as overly protective of defendants, but they are equally problematic from an epistemic perspective when they work against defendants.

because they may keep defendants from testifying—these include the rules that allow for impeachment with prior convictions and illegally obtained evidence.[168] As noted above, the exclusion of the latter may itself be truth thwarting, but it may also induce the exclusion of further relevant evidence by keeping defendants off of the witness stand.[169]

Finally, Laudan discusses briefly the fact that many of the rules discussed above are justified on nonepistemic grounds. He considers many of the familiar nonepistemic arguments for and against these rules, and he finds these arguments for the rules largely unpersuasive. For example, the exclusionary rule is often justified on the ground that it deters illegal conduct[170] or on the ground that the integrity of the judicial system would be compromised when basing a decision on illegally seized evidence.[171] Laudan sides with the familiar replies that other remedies are available to deter illegal conduct,[172] and that if the legal system were concerned with its integrity with regard to illegal evidence, then it would not allow it to be introduced to impeach defendants or against defendants without standing to challenge the legality of its acquisition.[173] Likewise, he recognizes that evidentiary privileges are justified on grounds of protecting certain relationships (such as marriage) or encouraging candor from defendants (with, for example, psychotherapists or priests);[174] however, Laudan concludes that these benefits are outweighed by their epistemic costs.[175] In general, he argues that any nonepistemic values should be better balanced with epistemic ones—for example, he argues that even if defendants retain a right not to testify, the jury should be allowed to draw adverse inferences when defendants do so.[176] Likewise, he argues that perhaps the attorney–client privilege ought to be retained, but that others should be either eliminated or the jury told when a

168. *Id.* at 169–70.

169. *See id.* at 170 ("[C]ourts basically do not want defendants to speak. They make silence a painless decision for the defendant—shielding him from its usual and natural consequences by jury instructions to make nothing of it. They penalize him if he opens his mouth.").

170. *See* Elkins v. United States, 364 U.S. 206, 217 (1960) (asserting that the purpose of the exclusionary rule "is to compel respect for the constitutional guaranty . . . by removing the incentive to disregard it").

171. *See* Mapp v. Ohio, 367 U.S. 643, 660 (1961) ("Our decision, founded on reason and truth, gives to the individual no more than that which the Constitution guarantees him, to the police officer no less than that to which honest law enforcement is entitled, and, to the courts, that judicial integrity so necessary in the true administration of justice.").

172. LAUDAN, *supra* note 15, at 225. Regarding excluding evidence on deterrence grounds, Laudan argues that we are "weighing a known and serious cost against an uncertain and probably modest gain. That should be an easy call." *Id.*

173. *See id.* at 227 (pointing out that courts frequently admit evidence seized illegally either from persons other than the defendant or by someone other than the police).

174. *Id.* at 165.

175. *Id.* at 169–70.

176. *Id.* at 229. Regarding confessions, he suggests, as a compromise, having confessions videotaped while relaxing the rules excluding them. *Id.*

defendant invokes them (and allowed to draw inferences from it).[177] The result of these compromises would be "far fewer false verdicts . . . than [result] from the current regime, while traditional (as opposed to more recent and court-invented) rights of defendants would remain largely intact."[178] This quote also more generally summarizes Laudan's main theme with regard to error reduction.

II. A Critique with Regard to Error Reduction

Laudan asserts that "one of the key theses of [his] book is that the current legal system allows, even encourages, far more false acquittals than are either necessary or desirable."[179] He interprets prior surveys and studies to conclude on the one hand that the percentage of false convictions constitutes somewhere around 0.5 to 3% of convictions.[180] On the other hand, he concludes that the majority of defendants are guilty (he estimates that at least 60% of criminal defendants are guilty) and that many false acquittals occur.[181] He thus concludes that the current ratio of true acquittals to false convictions—and hence, as a consequence, the number of false acquittals—is much too high.[182] The appropriate ratio here is a matter for all of us to decide, and there is plainly room to debate the appropriate ratio. This Part thus takes no issue with Laudan's views about what that ratio should be.[183]

Laudan's conclusions, however, that many extant rules inappropriately stand in the way of error reduction, and thus should be jettisoned, must meet three challenges. First, he must show that these rules (other than the standard of proof) should not in fact function to distribute errors. Second, he must show that eliminating or modifying a rule in the way proposed would in fact lead to more error reduction in the long run, and not to more errors. Third, he must show that these rules are not justified on nonepistemic grounds—that is, they are not justified on grounds other than error reduction or distribution. This Part offers reasons to challenge some of the book's conclusions with regard to error reduction on each of these grounds.

But first, to be sure, there is much that is right, commendable, and important in Laudan's discussion of the epistemology of error reduction. Any rule or practice that hinders the discovery of truth or increases errors and

177. *See id.* (acknowledging that the attorney–client privilege may promote the interests of truth finding, and indicating that while all other privileges are not epistemically ideal, he would not too vigorously oppose retaining them if when they were exercised, jurors were informed and allowed to draw appropriate conclusions).

178. *Id.* at 230.

179. *Id.* at 69–70.

180. *Id.* at 70–71.

181. *Id.* at 108.

182. *See id.* at 69–70 ("[O]ne of the key theses of this book is that the current legal system allows, even encourages, far more false acquittals than are either necessary or desirable.").

183. For example, I would not accept a ratio in which one out of every ten innocent defendants brought to trial is convicted.

cannot be justified on error-distribution or nonepistemic grounds ought to be revised. This is true regardless of whether the rule or practice in general favors the prosecution or the defendant, as the principle of indifference dictates. And more generally, Laudan is surely right that the legal system pays a high price in terms of total errors (that is, errors in terms of factually false outcomes) when criminal litigation becomes more of a fight over technical legal rules rather than on discovering what actually happened, even when those technicalities have been constructed to protect important constitutional rights. And the small amount of time and limited resources available to most defense counsel have only increased this cost.[184] Several circumstances make it not surprising that factual issues have taken a back seat in the world of criminal defense: public defenders and indigent defense in general are notoriously underfunded; factual issues are costly to investigate and discovery rules are limited; and it is incredibly difficult to get a conviction overturned on factual grounds, given the highly deferential standard of review—but there are a plethora of technical issues that are cheaper to raise and that have a much higher likelihood of being grounds for a successful appeal.[185] It would be a step in the right direction to try to reduce errors, not only by revising current truth-thwarting practices but by developing new ones that improve the accuracy of outcomes—such as better forensic-science techniques, more reliable (and visible) interrogation practices, more reliable lineup procedures, and more open and available discovery.[186]

Laudan's error-reduction proposals are in an important sense dependent on first developing a macro-level proof standard that does in fact incorporate all of the benefit of the doubt that defendants deserve. As an analytic matter, there is no reason why the benefit of the doubt must be isolated in the standard of proof rather than divided between the standard and one or more other prodefendant rules.[187] Under Laudan's analysis, the benefit of the doubt should be measured by the number of errors made against innocent defendants that society finds acceptable (when compared directly with the number of acquittals of innocent defendants and indirectly with the number

184. *See* Darryl K. Brown, *The Decline of Defense Counsel and the Rise of Accuracy in Criminal Adjudication*, 93 CAL. L. REV. 1585, 1602 (2005) (noting that what the Supreme Court tried to grant through constitutional doctrine, legislatures have limited through funding constraints so that defense counsel have little time and few resources for most cases, resulting in a limited ability to extend investigations or prepare rigorous confrontations of evidence).

185. *See generally* William J. Stuntz, *The Uneasy Relationship Between Criminal Procedure and Criminal Justice*, 107 YALE L.J. 1, 4–5 (1997) (arguing that judges' ignorance of circumstances in the criminal justice system and legislatures' attempts to reduce costs lead to criminal procedures that may imprison many innocents).

186. *See* Brown, *supra* note 184, at 1613–31 (suggesting that improvements in investigation, such as standardized eyewitness-identification protocols, crime-laboratory improvements, and less restrictive discovery rules, would increase accuracy in the criminal justice system).

187. Laudan's focus is on factual issues, but some of the benefit of the doubt given to criminal defendants involves legal questions, e.g., the rule of lenity and challenges for vagueness and overbreadth. It is not clear how these doctrines should fit into his analysis.

of errors made in favor of guilty defendants).[188] The proper ratio may be arrived at by the standard alone, the standard plus one other rule, or the standard plus *n* rules. Laudan's reason for locating it solely within the standard of proof is that it will be easier to calibrate.[189] This is most likely true, and it makes for a simpler and more elegant theory of the epistemology of legal proof. While it may be easier to calibrate, however, it will still be an incredibly difficult task. Even if we knew what ratio we were looking for, developing a standard that would produce roughly this ratio across all categories of criminal cases may be virtually impossible, given the unique combination of jurors' background beliefs and evidence in every case. In any event, by Laudan's analysis of BARD, we are far from that goal. He describes it as "grievously inadequate"[190] and blind in the "literal sense of not knowing what it is doing or where it is going."[191]

Given this problem and uncertainty with the proof process at the macro level, many of the prodefendant rules identified may thus in fact be, as Laudan argues, distributing rather than reducing errors, but doing so appropriately. Until we have a rational, sensible rule at the macro level, it may be inappropriate to pull micro-level stones if the consequence will be that the structure falls on more innocent defendants than society is comfortable with (even *if* it produces a greater reduction in errors favoring guilty defendants). In other words, this is a question of whether our current ratio is too high or too low and also what effect eliminating a further prodefendant rule will have.[192] To settle this, at least in theory, we would have to know the answer to the following question: should we convict even more innocent defendants than we currently do if it means we will also convict an even greater number of guilty defendants? Laudan apparently thinks the current ratio is too high;[193] others, I assume, will disagree.[194] In short, a more rational process at the macro level of proof may be a prerequisite to many of the error-reduction proposals.[195]

---

188. LAUDAN, *supra* note 15, at 74–76.

189. *Id.* at 127.

190. *Id.* at 30.

191. *Id.* at 51.

192. One might challenge some of Laudan's assumptions about the prodefendant effects of certain rules. He assumes, for example, that a defendant's option to make character an issue helps many defendants, but this seems implausible. *See id.* at 138–40. The prosecution can often get inculpatory-propensity evidence admitted under Federal Rule of Evidence 404(b), and when defendants can offer their own evidence, it must be limited to opinion or reputation testimony (and thus is not very probative). *See* FED. R. EVID. 405(a) ("In all cases in which evidence of character or a trait of character of a person is admissible, proof may be made by testimony as to reputation or by testimony in the form of an opinion.").

193. *See supra* note 182 and accompanying text.

194. Also, in a society that overcriminalizes or oversentences certain crimes, citizens may want more total acquittals regardless of guilt or innocence.

195. Laudan often assumes that a rational standard of proof is in place for other aspects of his analysis. *See, e.g.*, LAUDAN, *supra* note 15, at 124–25 (stating that a hypothetical wrongly accused

Second, it is not always clear whether Laudan's error-reduction proposals will in fact lead to error reduction. He operates under the reasonable assumption that providing the jury with all the relevant evidence in a case will improve decision making, unless it could be demonstrated that juries systematically misinterpret a particular type of evidence, in which case it should be excluded if instructions and arguments by the other side cannot correct the misinterpretations.[196] Also, given that we lack strong empirical evidence demonstrating such failures by juries, many current exclusionary rules should be excluded in order to produce more accurate verdicts. In operating under these assumptions, Laudan is employing the "jury control" model for structuring rules.[197] By contrast, some exclusionary rules may operate instead in a preemptive fashion. They may exclude evidence in order to force a party to produce better evidence. Their purpose is thus "advocate control," not jury control.[198] Hearsay provides a clear example. Laudan appears to conclude that all relevant hearsay should be admitted.[199] Later, though, in discussing constitutional protections, he acknowledges that the Confrontation Clause serves an epistemic function—being able to cross-examine those who make statements will generate better evidence than their out-of-court hearsay.[200] But if all relevant hearsay can be admitted, the parties may substitute less reliable out-of-court-hearsay evidence for more reliable in-court testimony when it is in their strategic advantage to do so, even though this may produce more errors in the long run than a rule that excludes some hearsay (at least where the witness is available to testify).[201] Laudan may very well agree with this analysis (concluding that the witness must come to court), but then this means that hearsay, even if relevant and reliable, should sometimes be excluded in the service of error reduction for reasons other than jury misinterpretation. This is not to suggest that all exclusionary rules of evidence work this way, just to point out that these preemptive party-control considerations are largely absent from his error-reduction analysis, and thus some proposals may cut against the goal of error reduction.

---

person has only a slight chance of being wrongly convicted due to a standard of proof of around ninety to ninety-five percent).

196. *Id.* at 120.

197. *See* Allen & Leiter, *supra* note 18, at 1501 (defining the "jury control principle" as "the idea 'that the organizing principle of Evidence law [is] a fear that lay jurors [will] misuse certain types of evidence'" (quoting Edward J. Imwinkelried, *The Worst Evidence Principle: The Best Hypothesis as to the Logical Structure of Evidence Law*, 46 U. MIAMI L. REV. 1069, 1070 (1992))).

198. *See* Dale A. Nance, *Naturalized Epistemology and a Critique of Evidence Theory*, 87 VA. L. REV. 1551, 1555–56 (2001) (distinguishing jury control, which aims to filter out evidence that could lead the jury astray, from advocate control, which seeks to assure that the jury is presented with the best evidence reasonably available to the parties).

199. *See* LAUDAN, *supra* note 15, at 137 (arguing that it is inconsistent that probable cause may be established by hearsay evidence that is inadmissible at trial).

200. *Id.* at 218.

201. *See* Lawrence B. Solum, *Procedural Justice*, 78 S. CAL. L. REV. 181, 248 (2004) (discussing the tension between case accuracy and systemic accuracy caused by procedural rules).

Finally, some of the constitutional rules that Laudan argues should be eliminated or modified may in fact serve nonepistemic values. The book attempts to balance and weigh the nonepistemic values against epistemic ones and concludes that for the most part, the nonepistemic values cannot justify current doctrine. But the book's discussion of evaluating and balancing nonepistemic values is more cursory than the detailed epistemic discussions. Thus, one criticism is not that Laudan is wrong necessarily but that he doesn't add much to these debates. Take, for example, the Fourth Amendment's exclusionary rule.[202] No one supposes that excluding relevant and often highly probative inculpatory evidence leads to more accurate outcomes in particular cases. The exclusionary rule's purported justifications are deterrence and the integrity of the system.[203] The rule puts the government in the same position it would have been in if it had acted legally in the first place. Some are satisfied with these explanations, others are not. Laudan is in the latter category.[204] He makes the familiar point that with regard to deterrence, other remedies are available, such as civil sanctions, which would also deter illegal police conduct.[205] But others have disagreed about what the counterfactual consequences would be and whether they would be desirable. William Stuntz, for instance, has argued that alternative remedies may deter too much—they may chill otherwise legal evidence gathering by the police, who will be more risk averse because of the possibility of suffering sanctions directly and personally.[206] Laudan offers no new reasons that would resolve this debate. Second, with regard to the integrity-of-the-system rationale, he correctly points out that if we really were concerned with this rationale, then the evidence should not be admitted, as it currently is, when the defendant lacks standing (because the police violated someone else's rights in seizing the evidence)[207] or to impeach a testifying defendant.[208] But those who accept the integrity rationale have a quick response: those rules with regard to standing and impeachment are wrong and the doctrine should change.[209] Again, there is likely to be a standstill

202. *See* Mapp v. Ohio, 367 U.S. 643, 656, 660 (1961) (emphasizing the critical role the exclusionary rule plays in both deterring unlawful search and seizure and ensuring the genuine administration of justice).

203. *Id.*

204. LAUDAN, *supra* note 15, at 227.

205. Police officers currently enjoy qualified immunity from civil suits. *See, e.g.*, Anderson v. Creighton, 483 U.S. 635, 646 (1987) (holding that FBI agents are protected by qualified immunity in cases of unlawful warrantless searches). This could make deterrence less likely.

206. William J. Stuntz, *The Virtues and Vices of the Exclusionary Rule*, 20 HARV. J.L. & PUB. POL'Y 443, 445 (1997).

207. *See, e.g.*, Minnesota v. Carter, 525 U.S. 83, 90–91 (1998) (holding that respondents did not have a legitimate expectation of privacy in someone else's home when they were there for business purposes).

208. LAUDAN, *supra* note 15, at 227; *see* United States v. Havens, 446 U.S. 620, 626–29 (1980) (holding that the exclusionary rule does not bar the use of evidence for impeachment purposes).

209. For example, Justice Brennan noted in his dissent in *United States v. Havens* that the Court's ruling forces a defendant to choose between giving up his right to testify and allowing

between the two sides. In short, readers who don't already agree are likely to find the discussions of nonepistemic aspects less persuasive than the epistemological investigations that are the book's main focus.

III. Extending the Analysis (Even Though Laudan May Disagree)

The book's diagnosis of the failures of the standard of proof is a significant advance for the epistemology of law. It also poses a most significant challenge. A standard of proof ought to provide a decision rule about when and whether certain propositions have been proven. It ought to do so in a way that distributes errors in a socially acceptable way. And that's not all. It ought to do so while being responsive to the quality of the evidence presented. For example, flipping a coin may distribute errors evenly in civil cases, and a similar random procedure, weighted appropriately in favor of defendants, may produce an appropriate ratio in criminal cases. But neither would function as a satisfactory decision rule. The connection to evidence means the standard ought to function to distribute errors while also serving the goal of accuracy.[210]

The current manifestations of the BARD standard, however, loosen this connection with the evidence by instructing jurors to consult their own mental states, or degrees of certainty, based on the evidence. A loose connection with the evidence still exists because, presumably, the evidence should be what causes the mental states, but this loose connection is inadequate to meet the requirements of a standard of proof. The various manifestations fail to provide sufficient guidance or constraint concerning which mental states would be reasonable, warranted, or justified, and which would not be, based on the evidence. Not only is there no indication that such an instruction would distribute errors appropriately, there is no reason to believe that the outcomes produced would be based on appropriate responses to the evidence (and would thus serve the goal of accuracy). The problem is more general than even Laudan's discussion reveals. In civil cases, standards of proof face similar problems. The prominent preponderance of the evidence standard and the occasionally used "clear and convincing evidence" standard similarly fail to provide sufficient guidance and constraint. At least nominally, the standards appear to refer to the quality of the *evidence*, but instructions fail to provide any further indication about how one is to determine *when* and *whether* evidence preponderates or is clear and

---

illegal evidence into admission, and he concluded that he could not "agree that one constitutional privilege must be purchased at the expense of another." *Havens*, 446 U.S. at 632 (Brennan, J., dissenting). Justice Brennan further lamented, "by treating the Fourth and Fifth Amendment privileges as mere incentive schemes, the Court denigrates their unique status as *constitutional* protections." *Id.* at 634.

210. This does not mean the standard is meant to minimize errors (as is the case with a preponderance standard).

convincing. Fact finders are again left to consulting their own mental states.[211] This appears to be a general problem for law's epistemology.

Despite locating decision standards in fact finders' mental states, the law at other points backs off from the consequences of this general strategy in significant ways. Suppose the law took seriously the idea that decision standards turned solely on the degrees of certainty or other mental states of fact finders. If this were true, then the only way the jury could be wrong in a given case is if they are wrong about what *their own mental states* are with regard to the propositions at issue. Instead, the law often steps in and dictates when a particular conclusion would or would not be reasonable based on the evidence. In the criminal context, cases may be dismissed and convictions overturned when no reasonable jury could find the defendant guilty BARD based on the evidence.[212] And in civil cases, summary judgments and judgments as a matter of law are frequently granted, and reviewed by appellate courts, when courts conclude that no reasonable jury could find, or could fail to find, a proposition by a preponderance of the evidence.[213] These decisions by courts purport to respond to features in the evidence that make certain beliefs reasonable,[214] but there seems to be no conceptual space for such decisions when the decision rule is what mental state the evidence

---

211. *See, e.g.*, THE COMM. ON PATTERN CIVIL JURY INSTRUCTIONS OF THE SEVENTH CIRCUIT, FEDERAL CIVIL JURY INSTRUCTIONS OF THE SEVENTH CIRCUIT § 1.27 (2005), *available at* http://www.ca7.uscourts.gov/7thcivinstruc2005.pdf (explaining that something is supported by a preponderance of the evidence when jurors are persuaded that it "is more probably true than not true"); *id.* § 1.28 (explaining that something is supported by clear and convincing evidence when jurors are persuaded that it is "highly probably true").

212. *See* FED. R. CRIM. P. 29(a) ("After the government closes its evidence or after the close of all the evidence, the court on the defendant's motion must enter a judgment of acquittal of any offense for which the evidence is insufficient to sustain a conviction."); Jackson v. Virginia, 443 U.S. 307, 324 (1979) (articulating the standard as whether "no rational trier of fact could have found proof of guilt beyond a reasonable doubt").

213. Federal Rule of Civil Procedure 50(a)(1) reads:

> If a party has been fully heard on an issue during a jury trial and the court finds that a reasonable jury would not have legally sufficient evidentiary basis to find for the party on that issue, the court may: (A) resolve the issue against the party; and (B) grant a motion for judgment as a matter of law against the party on a claim or defense that, under the controlling law, can be maintained or defeated only with a favorable finding on that issue.

Federal Rule of Civil Procedure 56(c) reads:

> The [summary] judgment sought shall be rendered forthwith if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law.

Scholars have also noticed the prevalence of pretrial judgments. *See, e.g.*, Arthur R. Miller, *The Pretrial Rush to Judgment: Are the "Litigation Explosion," "Liability Crisis," and Efficiency Clichés Eroding Our Day in Court and Jury Trial Commitments?*, 78 N.Y.U. L. REV. 982, 1134 (2003) (concluding that the move toward more pretrial disposition of issues has taken from juries the responsibility to make "commonsense determinations about human behavior").

214. *See, e.g.*, Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 250–57 (1986) (discussing the process by which courts determine whether there is evidence upon which the jury could properly reach a given conclusion).

causes for the fact finder. This concern with detecting *unreasonable* decisions reflects the law's need for standards that refer to more objective features.

But what should these features be? Recognizing this specter of arbitrary or unreasonable decisions, the dominant trend in evidence scholarship has been to turn to probability theory. Standards of proof and the strength of evidence are quantified and a proposition considered proven when the probability of the proposition given the evidence exceeds the standard of proof.[215] These probability-based alternatives, however, also fall prey to Laudan's diagnosis. Even if we could agree on what the probability should be for each standard, there is no indication that this standard would produce an appropriate distribution of errors or that it would be responsive to objective features of the evidence. Ultimately, such approaches reduce to the same conceptual problem as the current manifestations of BARD—the probability assessments would still be subjective assessments that may or may not be justified in any given case. They fail to provide the kind of guidance and constraint that a standard of proof should provide.[216]

If probability theory will not cure the problems, what will? Unfortunately, Laudan does not give us a concrete proposal, but he does provide some guidelines and possibilities. A standard should be understandable and one that juries can apply, and it should be directed at objective features of the evidence presented.[217] He presents as possibilities (1) whether there is any surprising evidence, given the defendant's guilt or innocence; (2) acquit unless the prosecutor's theory is plausible and no other plausible story suggests the defendant's innocence; and (3) whether every reasonable hypothesis in which the defendant is innocent has been ruled out.[218] But he stops at this point, suggesting that anything along these lines would be an improvement over the status quo and apparently deferring any further details until our empirical knowledge of the situation improves.[219]

---

215. For recent articles discussing the quantification of BARD, see James Franklin, *Case Comment*—United States v. Copeland, *369 F. Supp. 2d 275 (E.D.N.Y. 2005): Quantification of the 'Proof Beyond Reasonable Doubt' Standard*, 5 LAW PROBABILITY & RISK 159 (2006); Jon O. Newman, *Quantifying the Standard of Proof Beyond a Reasonable Doubt: A Comment on Three Comments*, 5 LAW PROBABILITY & RISK 267 (2006); Peter Tillers & Jonathan Gottfried, *Case Comment*—United States v. Copeland, *369 F. Supp. 2d 275 (E.D.N.Y. 2005): A Collateral Attack on the Legal Maxim that Proof Beyond a Reasonable Doubt Is Unquantifiable?*, 5 LAW PROBABILITY & RISK 135 (2006); and Jack B. Weinstein & Ian Dewsbury, *Comment on the Meaning of 'Proof Beyond a Reasonable Doubt,'* 5 LAW PROBABILITY & RISK 167 (2006). Classic articles discussing the quantification of evidence include Michael O. Finkelstein & William B. Fairley, *A Bayesian Approach to Identification Evidence*, 83 HARV. L. REV. 489 (1970); John Kaplan, *Decision Theory and the Factfinding Process*, 20 STAN. L. REV. 1065 (1968); and Richard O. Lempert, *Modeling Relevance*, 75 MICH. L. REV. 1021 (1977).

216. *See* Allen & Pardo, *supra* note 93, at 114–28 (discussing the limitations of probability assessments generated using probability theory).

217. LAUDAN, *supra* note 15, at 87.

218. *Id.* at 82–83.

219. *Id.* at 85.

Accepting Laudan's diagnosis of the status quo and his rejection of the probability approach, I suggest that further details of a better approach would appeal to the *explanatory* connections between evidence and the propositions at issue in criminal cases. Ron Allen and I have argued that as a general matter, explanatory considerations better explain the nature of juridical proof.[220] The proof process is structured around the strength of competing explanations of the presented evidence, and the strength of these explanations guides the inferential processes at trial. This process occurs in two stages: generating potential explanations and selecting one that better (or best) explains the evidence as a whole. In this way, the inferential processes at trial resemble the inferential processes in science and in our everyday lives.[221] Of two possibilities, X or Y, the one that better explains the evidence at issue is more likely to be true. Explanations thus occur prior to and thus guide (and constrain) inferences. General criteria are often employed to judge one explanation better than another, such as simplicity, coherence, consilience, absence of anomalies, how much ad hoc reasoning is employed, and so on. Which of these matter more at any given time will depend on the context of the decision. More importantly, explanations are contrastive—we judge how well an explanation explicates evidence by comparing it with

220. *See* Allen & Pardo, *supra* note 93, at 135–36, 135–38 (arguing that the reference-class issue creates epistemological problems that vex mathematical models of the probative value of evidence, and that the statistics used and provided by such models "are just more evidence that must be interpreted . . . by comparing the various hypotheses that may explain the evidence"); Michael S. Pardo & Ronald J. Allen, *Juridical Proof and the Best Explanation*, 27 LAW & PHIL. (forthcoming Jan. 2008) (manuscript at 3), *available at* http://www.springerlink.com/content/m485254316xk7117/fulltext.pdf [hereinafter Pardo & Allen, *Juridical Proof*] ("[T]he process of inference to the best explanation itself best explains both the macro-structure of proof at trial and the micro-level issues regarding the relevance and value of particular items of evidence. . . . [P]robability-based accounts, rather than being an alternative, are parasitic on the more fundamental explanation-based considerations.").

221. *See* PETER LIPTON, INFERENCE TO THE BEST EXPLANATION 1 (2d ed. 2004) ("According to the model of Inference to the Best Explanation, our explanatory considerations guide our inferences. . . . [M]any of our inferences, both in science and in ordinary life, appear to follow this explanationist pattern."); WILLIAM G. LYCAN, JUDGMENT AND JUSTIFICATION 125 (1988) ("We are always and everywhere stuck in the business of making comparisons of plausibility, and such comparisons are made only by weighing explanatory virtues." (emphasis omitted)); Yemima Ben-Menahem, *The Inference to the Best Explanation*, 33 ERKENNTNIS 319, 322–23 (1990) (offering jurists' use of circumstantial evidence, scientists' preference for explanations that do not rely on positing action at a distance, and historians' competing explanations of Newton's thought as typical examples of inference to the best explanation); Timothy Day & Harold Kincaid, *Putting Inference to the Best Explanation in Its Place*, 98 SYNTHESE 271, 289–92 (1994) (discussing the application of the inferential process in the physical sciences); Gilbert H. Harman, *The Inference to the Best Explanation*, 74 PHIL. REV. 88, 88 (1965) (defining "inference to the best explanation" as the basic form of nondeductive inference); Paul R. Thagard, *The Best Explanation: Criteria for Theory Choice*, 75 J. PHIL. 76, 79 (1978) (identifying three criteria for drawing inferences to arrive at the best explanation among several alternatives); Paul Thagard, *Evaluating Explanations in Law, Science, and Everyday Life*, 15 CURRENT DIRECTIONS PSYCHOL. SCI. 141, 141–42 (2006) (describing the theory of explanatory coherence and asserting the importance of drawing inferences from multiple hypotheses in both criminal investigations and legal reasoning).

alternatives that diverge at key points relevant to our considerations.[222] At trial, the prosecution will offer an explanation of the evidence that incorporates all of the formal elements it has the burden to prove. The defense may try to show that the prosecution has failed to provide a plausible explanation that incorporates all of these elements, may offer an alternative explanation that fails to include one of the elements, or may offer an explanation that includes the elements of an affirmative defense.

Given that explanatory considerations explain the proof process, articulating the standards of proof in such terms makes sense for several reasons. First, as Laudan recognizes, it is one that jurors are already familiar with in everyday inferential tasks.[223] Indeed, it is also the inferential process that strong empirical evidence confirms as the way actual jurors decide cases.[224] Articulating decision standards in these terms can thus help to make explicit what most jurors are already doing implicitly and alleviate the confusion current instructions create. This would satisfy Laudan's criterion that a standard of proof should be understandable and one that juries can apply. Second, focusing on explanatory criteria directs decision making toward objective features of the evidence itself, rather than focusing solely on jurors' mental states. For this reason it improves on the status quo. Moreover, although not always explicit in the case law, explanatory connections are often what courts turn to when assessing whether a jury could reach a reasonable conclusion from the evidence in the contexts of summary judgment, judgment as a matter of law, and sufficiency of the evidence.[225] This would have the additional advantage of aligning decision standards and jury instructions with the review done by appellate courts. It would have the advantage of making explicit what may be implicit in judgments of what is "reasonable"—thus possibly also guiding and constraining judges.

---

222. *See* LIPTON, *supra* note 221, at 33 (arguing that individuals assess and weigh competing causal elements according to their own personal interests in evaluating causation).

223. LAUDAN, *supra* note 15, at 84.

224. *See* Shari Seidman Diamond, Mary R. Rose & Beth Murphy, *Revisiting the Unanimity Requirement: The Behavior of the Non-Unanimous Civil Jury*, 100 NW. U. L. REV. 201, 212 (2006) (determining that behavioral research conducted on a sample of fifty cases shows that juries use inferential processes in deliberation); Nancy Pennington & Reid Hastie, *A Cognitive Model of Juror Decision Making: The Story Model*, 13 CARDOZO L. REV. 519, 525–27 (1991) (hypothesizing that in deliberation juries use various techniques, including inferential processes, to construct stories to fit the verdicts they award).

225. For example, explanatory connections are exhibited in *City of Los Angeles v. Alameda Books, Inc.*, 535 U.S. 425 (2002):

> Neither the Court of Appeals, nor the respondents, nor the dissent provides any reason to question the city's theory. In particular, they do not offer a competing theory, let alone data, that explains why the elevated crime rates in neighborhoods with a concentration of adult establishments can be attributed entirely to the presence of permanent walls between, and separate entrances to, each individual adult operation.

Id. at 437. *Reeves v. Sanderson Plumbing Products, Inc.*, 530 U.S. 133, 147 (2000) affords another example: "Once the employer's justification has been eliminated, discrimination may well be the most likely alternative explanation."

So what should such standards look like? In civil cases, under the preponderance standard, the answer is straightforward: the jury should, and should be told to, find for the party whom the best explanation of the evidence favors.[226] In criminal cases, jurors should, and should be told to, convict only when there is a plausible explanation consistent with guilt and no plausible explanation consistent with innocence, and to acquit when either there is no plausible explanation consistent with guilt or a plausible explanation consistent with innocence.[227] Along with providing a standard that is easier to understand and apply, and that appeals to features in the evidence, this civil standard should distribute errors equally (and minimize errors), and the criminal standard should distribute errors in favor of criminal defendants.[228]

Despite his occasional references to explanatory criteria, however, Laudan has rejected such an approach for articulating the criminal standard of proof.[229] He notes three potential problems with such an account in the criminal context.[230] First, if jurors infer the best explanation from a pair of (or from several) bad explanations, this would convict too many innocent defendants who, intuitively, have not yet been proven BARD.[231] Laudan is correct here, but this does not impugn an explanationist's standard. Only when the prosecution's explanation is plausible and there is no plausible explanation consistent with innocence, should the defendant be convicted. In his example an acquittal is warranted on explanatory grounds. Second, Laudan objects that if the jury infers the best explanation from a pair (or group) of strong explanations, this would again convict defendants who had not been proven BARD.[232] But, again, if there is a plausible explanation

---

226. *See* Pardo & Allen, *Juridical Proof*, *supra* note 220 (manuscript at 13–16) (arguing that juries in civil trials should, and usually aim to, render a verdict in line with the best explanation of the evidence, whether offered directly by counsel or constructed by jurors themselves).

227. *See* Ronald J. Allen, *Rationality, Algorithms, and Juridical Proof: A Preliminary Inquiry*, 1 INT'L J. EVIDENCE & PROOF 254, 273 (1997) (arguing that in order to secure a conviction, the prosecution must put forward factual evidence that constructs a plausible case for guilt and that defeats all plausible cases for innocence); Pardo & Allen, *Juridical Proof*, *supra* note 220 (manuscript at 16–17) (arguing that standards of proof in criminal trials do not require that jurors endorse the best of many potential explanations, but rather infer innocence whenever there is sufficiently plausible evidence and convict only when there is no such evidence of innocence and there is a plausible explanation consistent with guilt).

228. If one makes the same assumptions as with other standards.

229. *See* Larry Laudan, *Strange Bedfellows: Inference to the Best Explanation and the Criminal Standard of Proof*, 11 INT'L J. EVIDENCE & PROOF 292, 294 (2007) ("I think there are powerful reasons, *specific to the law* (especially the criminal law), for doubting whether [inference to the best explanation] can shed light on those questions about the nature of legal standards of proof that appear to motivate the growing dalliance . . . with this particular strategy."). He also rejects such an approach for the preponderance standard in civil cases. *See id.* at 305–06 ("For quite different reasons, we have grounds for suspecting that [inference to the best explanation] will fare no better as a substitute for proof by the preponderance of the evidence than it does for BARD . . . .").

230. *Id.* at 305.

231. *Id.* at 298–99.

232. *Id.* at 299.

consistent with innocence, then the defendant should be acquitted on explanatory grounds. Finally, and more specifically, Laudan objects to this explanatory standard because it severs a link between being the best explanation and "being probably true"—the above standard sometimes tells jurors to reject the best explanation so long as there is a weaker but good enough explanation favoring defendants.[233] He is again correct, but this does not impugn the standard. Under Laudan's own powerful analysis, a standard of proof ought to skew errors in favor of defendants based on the quality of the evidence—having a plausible explanation consistent with innocence indicates that there is sufficient likelihood of innocence such that the defendant should be acquitted. In others words, one feature of an *appropriate* standard of proof, which Laudan himself identifies, is that acquittals are sometimes warranted even when the defendant's guilt is "probably true." It is not an objection to an explanatory standard that it appropriately incorporates this feature. A turn toward explanatory considerations thus may provide the best path for extending the book's significant advances in the epistemology of legal proof and in alleviating the problems the book identifies.

IV. Conclusion

Laudan's thought experiment reveals many misshapen stones and provides some guidelines for building a more rational edifice. More abstractly, the book provides an exemplary instance of the kind of conceptual work necessary for developing an epistemology of law. This is a welcome development for evidence scholarship and the philosophy of law, both of which may benefit by becoming more broadly and explicitly epistemological. Those from both camps who disagree with Laudan's specific theses and prescriptions will still find much to learn from and to build upon. More specifically, this Review has argued that the book's analysis of standards of proof provides its most significant advance for the epistemology of law. It also suggested that reform at this level may even be a prerequisite to additional solutions proposed in the book. Finally, it suggested that the problems identified with standards of proof may be alleviated by appealing to the explanatory considerations that structure and explain the nature of juridical proof. Laudan has thus far resisted this solution, and this is not surprising, given that he has been one of the main critics of "inference to the best explanation" in the philosophy of science.[234] But even a failed idea in the

---

233. *Id.* at 303.

234. Larry Laudan, *A Confutation of Convergent Realism*, 48 PHIL. SCI. 19, 33 (1981). The most serious criticism of inference to the best explanation in the philosophy of science, however, has been its poor track record in explaining unobservable entities, a concern that is not an issue for law. *See id.* (listing a number of scientific theories that were once successful and well confirmed, but contained central terms now believed to be self-referring). Some philosophers of science who generally reject inference to the best explanation in the scientific context have accepted it for explaining more everyday inferences—the kind that frequently give rise to litigation. *See, e.g.*, BAS C. VAN FRAASSEN, THE SCIENTIFIC IMAGE 19–20 (1980) (acknowledging that there are many

philosophy of science may still get the epistemology of law right. After all, the relationship between the two is complicated.

ordinary cases in which we follow the rule of inference to the best explanation); Wesley C. Salmon, *Reflections of a Bashful Bayesian: A Reply to Peter Lipton, in* EXPLANATION: THEORETICAL APPROACHES AND EXPLANATIONS 121, 132 (Giora Hon & Sam S. Rakover eds., 2001) ("Where interpersonal relationships are involved, I believe that something closely akin to Inference to the Best Explanation actually occurs and has some degree of legitimacy. It seems to occur, however, in contexts in which we can hardly be said to have *scientific* explanation.").