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Epistemology and the Law of Evidence: Problems and Projects

As for the philosophers, they make imaginary laws for imaginary commonwealths; and their discourses are as the stars, which give little light, because they are so high.

—Francis Bacon¹

Even today, more than four centuries later, Bacon’s complaint still resonates. Now, as then, the writings of philosophers—even of philosophers of law, who might be expected to be a little more grounded in the real world—all too often “give little light, because they are so high.” I will try to buck this trend by showing you that epistemological ideas really can illuminate real-life legal issues.

1 IDENTIFYING EPISTEMOLOGICAL ISSUES IN THE LAW

Every legal system needs, somehow, to determine the truth of factual questions. At one time, courts in England and continental Europe relied on in-court tests²—“proof” in the old meaning of the English word (a meaning that still survives in descriptions of liquor as “80% proof,”³ and in the old proverb “the proof of the pudding is in the eating”). In trial by oath, a defendant would be asked to swear on the testament or on a reliquary that he was innocent, and “oath-helpers” or “con-jurors” might be called to swear that *his* oath wasn’t

¹ Francis Bacon, *The Advancement of Learning* (1605), in Basil Montagu, ed., *The Works of Francis Bacon* (London: William Pickering, 1825), vol. II, 295.
² For more details of the history sketched here, see “Legal Probabilism: An Epistemological Dissent,” pp. 47–77 in this volume, 48–50.
³ The phrase refers to the strength of the liquor, calculated as twice the percentage of alcohol present; so, e.g., liquor that is “80% proof” would be 40% alcohol. Merriam Webster, *Webster’s Ninth New Collegiate Dictionary* (Springfield, MA: Merriam-Webster Publishing, 1991), 942.

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foresworn;⁴ in trial by ordeal, a defendant might be asked, e.g., to pick up a ring from the bottom of a cauldron of boiling water, and his arm would later be checked to determine whether it had healed cleanly or had festered—which supposedly showed that he was guilty;⁵ in trial by combat, the two parties to a case would literally fight it out.⁶ The rationale for these procedures was, presumably, theological: God would strike a man who swore falsely, would ensure that an innocent defendant's wound healed cleanly, would see to it that the party in the right prevailed in combat; and these methods of proof (or "proof") were tolerated, presumably, because such theological assumptions were widely-enough accepted.

In continental Europe, in-court tests by oath and ordeal would gradually be replaced by canonical law and the Inquisition, and then by secular, national legal systems—which, however, still relied on torture to extract confessions.⁷ In 1766 Voltaire, who had long criticized the use of torture to determine guilt, complained about the practice of courts in Toulouse, which acknowledged "not only half-proofs but also quarters [e.g., a piece of hearsay] and eighths [e.g., a rumor]"—and then added up these fractional proofs, so that "eight doubts could constitute a perfect proof." But by this time the system was already in trouble; and in 1808 it would be reformed under Napoleon's legal code.⁸

In England, in-court tests by oath and ordeal were gradually replaced by a nascent system of jury trials.⁹ The first such trial was held in Westminster in 1220: five men accused of murder agreed "to submit to the judgement of twelve of their property-owning neighbors"; and, in a procedure recognizably descended from the older practice of calling on con-jurors, these jurymen swore that one of the accused was law-abiding, but that the other four (who

⁴ Lisi Oliver, *The Beginnings of English Law* (Toronto: University of Toronto Press, 2002), 174 ff.

⁵ Robert Bartlett, *Trial by Fire and Water: The Medieval Judicial Ordeal* (Oxford: Clarendon Press, 1986), 9 ff.

⁶ George Neilson, *Trial by Combat* (London: Williams and Norgate, 1890).

⁷ Sadakat Kadri, *The Trial: A History, from Socrates to O. J. Simpson* (New York: Random House, 2005), 39–45.

⁸ *Id.*, 67–68.

⁹ These early English jury trials were not, to be sure, the first-ever trials by jury. A (very different) kind of jury trial was found in ancient Athens, where in 399 B.C. Socrates was tried before 501 fellow-citizens. Kadri (note 7 above), 9. On ancient Greek legal procedure more generally, A. Andrewes, "The Growth of the Athenian State," in John Boardman and N. G. L. Hammond, eds., *Cambridge Ancient Histories* (Cambridge: Cambridge University Press, 1983), III Part 3, *The Expansion of the Greek World, Eighth to Sixth Centuries B.C.*, chapter 43, 360–91, 388; Mogens Herman Hansen, *The Athenian Democracy in the Age of Demosthenes: Structure, Principles, and Ideology*, trans. J. A. Cook (Oxford: Blackwell, 1991), chapter 8.

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in due course were hanged) were thieves.¹⁰ But it would take centuries for the full array of now-familiar common-law evidentiary procedures—witnesses, cross-examination, exclusionary rules of evidence—to evolve.¹¹

Had the theological assumptions on which they rested been true, tests by oath, ordeal, and combat would have been epistemologically reasonable ways to determine facts at issue. But now, because we no longer believe those theological assumptions *are* true, we don't see those proof-procedures as epistemologically defensible. Still, even today some legal systems rely on practices reminiscent of the old provision in trial by oath that whether a defendant needed oath-helpers, and if so, how many, depended on his rank.¹² In traditional Sharia law, as presently practiced in, for example, Saudi Arabia, a man's testimony is given twice the weight of a woman's.¹³ And even in modern, western legal systems there are occasional reminders of the older proof-procedures: for example—rather as the word of the king or a bishop was taken to be sufficient by itself, without his needing to swear a solemn oath or, *a fortiori*, to produce oath-helpers¹⁴—some courts in the US have held government websites to be self-authenticating.¹⁵

Modern western legal systems, however, don't use anything like those older in-court tests, but instead rely primarily¹⁶ on the presentation of evidence: the testimony of witnesses, documentary evidence, and physical evidence such as the alleged murder weapon, the allegedly forged will, and so forth—"proof" in the current sense of the word, of showing some claim to be true, or likely true. Of course, the rationale for these practices *also* depends on certain presuppositions. This point can be made vivid by thinking about what the consequences would be for the law if these assumptions were false. If, for example,

¹⁰ Kadri, *The Trial* (note 7 above), 70–71. (The defendants, Kadri reports, had been identified by a self-confessed murderer in hopes that, by informing on them, she would save her own life.)

¹¹ See e.g., Stephan Landsman, "Of Witches, Madmen, and Product Liability: An Historical Survey of the Use of Expert Testimony," *Behavioral Science and Law* 13, no.2 (1995): 131–57.

¹² Oliver, *The Beginnings of English Law* (note 4 above), 174 ff.

¹³ Hunt Janin and André Kahlmeyer, *Islamic Law: The Sharia from Muhammad's Time to the Present* (Jefferson, NC: McFarland and Company, 2007), 32.

¹⁴ Oliver, *The Beginnings of English Law* (note 4 above), 174.

¹⁵ Federal Rule of Evidence 902 provides that certain kinds of evidence, including documents bearing "a seal purporting to be [sic] that of the United States," are self-authenticating; and this has been interpreted as including government websites. See e.g., *Estate of Gonzales v. Hickman*, ED CV 05–660 MMM (RCx), 2007 WL 3237727, *2 (C.D. Cal. May 30, 2007); *Paralyzed Veterans of Am. v. McPherson*, No. C 06–4670 SBA, 2008 WL 4183981 (N.D. Cal. Sept. 9, 2008); *Williams v. Long*, 585 F. Supp. 2d 679, 685 (D. Md. 2008).

¹⁶ The qualification "primarily" is intended to acknowledge, e.g., the role of legal presumptions.

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Richard Rorty had been right to insist that the entire epistemological enterprise is misconceived,¹⁷ if standards of what makes evidence stronger or weaker really were, as he professed to believe,¹⁸ purely conventional—not universal, but local to this or that epistemic community, and not truth-indicative, but free-floating¹⁹—then what we optimistically call the “justice system” would really be nothing but a cruel kind of judicial theater.

As this thought-experiment reveals, modern evidentiary procedures (in both common-law and civil-law jurisdictions) presuppose that evidence may be objectively better, or worse; that the better a claim is warranted by the evidence, the likelier it is to be true; and that these or those legal rules and procedures are good-enough ways of ensuring that verdicts are factually sound. In fact, as I understand it, what we ask the finder of fact to do is precisely to determine whether the defendant’s guilt or his liability has been established to the legally-required degree of proof by the evidence presented; and this is to make an *epistemological* judgment.

As I put it nearly a decade ago, the law is “up to its neck in epistemology,”²⁰ for even the briefest reflection on the rationale for evidentiary rules and procedures raises a host of questions of interest to an epistemologist. Are degrees and standards of proof best understood as degrees of credence on the part of the fact-finder, as mathematical probabilities, or as degrees of warrant of a claim by evidence? What is the relation of degrees of proof to the mathematical calculus of probabilities—and what role, if any, does that calculus have in legal proof?²¹ And if, as I believe, degrees of proof are degrees of warrant, what determines how well this or that evidence warrants a claim? Must we choose between “fact-based” and “story-based” or “narrative” accounts of proof, or are

¹⁷ Richard Rorty, *Philosophy and the Mirror of Nature* (Princeton, NJ: Princeton University Press, 1979). Rorty’s critique of epistemology is, however, nothing but a farrago of confusions and equivocations—confusions and equivocations painstakingly disentangled in Susan Haack, *Evidence and Inquiry* (1993; 2nd ed., Amherst, NY: Prometheus Books, 2009) chapter 9, and revisited more briefly in Susan Haack, “Confessions of an Old-Fashioned Prig,” in Haack, *Manifesto of a Passionate Moderate: Unfashionable Essays* (Chicago, IL: University of Chicago Press, 1998), 7–30, and in Susan Haack, “Coherence, Consistency, Cogency, Congruity, Cohesiveness, &c.: Remain Calm! Don’t Go Overboard!” (2004), in Haack, *Putting Philosophy to Work: Inquiry and Its Place in Culture* (Amherst, NY: Prometheus Books, 2008, expanded ed., 2013), 69–82.

¹⁸ I say “professed” because, I assume, when he needed to choose a medical treatment or find out whether the publisher’s check had arrived, Rorty looked to the evidence, just as you or I would do.

¹⁹ Rorty, *Philosophy and the Mirror of Nature* (note 17 above), chapter 5, §§5, 6.

²⁰ “Epistemology Legalized: or, Truth, Justice, and the American Way,” pp. 27–46 in this volume, 28.

²¹ The subject of “Legal Probabilism: An Epistemological Dissent,” pp. 47–77 in this volume.

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there other possibilities? Can combined evidence sometimes reach a higher degree of proof than any of its elements alone could do? When can we rely on the testimony of a witness, and when should we be suspicious of his honesty, or his competence, or both? Are there special difficulties when the witness is an expert? How are we to distinguish the genuine expert from the plausible charlatan? Is a group of people always, or sometimes, in an epistemologically stronger position than an individual—and if so, when, and why? Was C. S. Peirce right to complain that the adversarial procedures of common-law systems are poorly suited to discovering the truth?²² Was Jeremy Bentham right to argue that, because they prevent relevant evidence from ever being heard, exclusionary rules are a clear impediment to arriving at the facts of a case, and mainly serve the interests of attorneys who benefit from their skill in gaming the system?²³ Etc., etc., etc.

2 CHARACTERIZING LEGAL EPISTEMOLOGY

The word “epistemology” is a relatively recent coinage, dating from the mid-to late-nineteenth century.²⁴ But epistemology, the philosophical theory of knowledge, is very old, dating back at least to Plato’s efforts to distinguish genuine knowledge (*episteme*) from mere belief or opinion (*doxa*).²⁵

In the course of its long history, epistemology has undertaken a whole range of projects: not only distinguishing genuine knowledge from mere belief or sheer opinion, but also offering definitions or explications of the concept of knowledge; proposing arguments to establish that knowledge is possible—or that it isn’t; articulating the differences between knowing that *p*, knowing *X*, and knowing how to Φ ; exploring the relations of knowledge, certainty, and probability; asking how we know mathematical truths, empirical truths, moral truths, religious truths, etc., etc.; reflecting on supposed sources of knowledge—intellectual intuition, sensory experience, introspection, memory, inference, testimony, revelation, religious experience?—and their

²² C. S. Peirce, *Collected Papers*, eds. Charles Hartshorne, Paul Weiss, and (vols. 7 and 8) Arthur Burks (Cambridge, MA: Harvard University Press, 1931–58) 2.635 (1878); also in *Writings: A Chronological Edition*, ed., the Peirce Edition Project (Indianapolis, IN: Indiana University Press, 1982–present) 3:331. See also “Epistemology Legalized” (note 20 above), 33–39.

²³ Jeremy Bentham, *Rationale of Judicial Evidence* (1827; New York: Garland, 1978). See also “Epistemology Legalized” (note 20 above), 39–45.

²⁴ Merriam Webster, *Webster’s Ninth New Collegiate Dictionary* (note 3 above), 419, dates the word to c.1856; but fifty years later we find Peirce complaining that it is “an atrocious translation of *Erkenntnislehre*.” Peirce, *Collected Papers* (note 22 above), 5.494 (c.1906).

²⁵ See, e.g., Plato, *Republic*, trans. G. A. Grube, revised by C. D. C. Reeve (Indianapolis, IN: Hackett Publishing Company, 1992), Book 7.

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interrelations; articulating the structure of evidence and the determinants of evidential quality; trying to understand what makes evidence relevant to a claim, and what it means to describe evidence as misleading; characterizing procedures of inquiry and what makes them better or worse; distinguishing genuine inquiry from pseudo-inquiry and “advocacy research”; exploring epistemological virtues, such as intellectual honesty, patience, and thoroughness, and epistemological vices, such as self-deception, hastiness, and carelessness; looking at the effects of the environment in which inquiry takes place on how well or poorly it is conducted; evaluating the effects of sharing information; suggesting how to assess the worth of testimony, and investigating social aspects of knowledge more generally; and so on and on.

And what, exactly, do I mean by “legal epistemology” or “epistemology legalized”? In my mouth these phrases refer, not to a specialized, peculiar *genre* of epistemology, but simply to *epistemological work relevant to issues that arise in the law*.

John Stuart Mill writes in the introduction to his *System of Logic* (1843) that “[t]he business of the magistrate, of the military commander, of the navigator, of the physician, of the agriculturalist is to judge of evidence and act accordingly.” For they all “have to ascertain certain facts, in order that they apply certain rules. . . .”²⁶ The word “epistemology” hadn’t yet become current; but Mill’s agreeably old-fashioned phrase, “judge of evidence,” identifies what I take to be the *core* epistemological concern: to understand what evidence is, how it is structured, and what makes it better or worse, stronger or weaker. And, as Mill’s putting “the magistrate” at the top of his list signals, it is precisely *this* aspect of epistemology that is most relevant to legal issues about proof and proof-procedures.

Relevance, however, is a matter of degree; some epistemological work is highly relevant to legal concerns, some relevant but less so, some only marginally relevant—and some not relevant at all. Moreover, not all legally-relevant epistemology will be helpful. What we need is not only epistemological theory *focused centrally on evidence and its evaluation* (though it may, to be sure, use other words, such as “data,” “reasons,” or “information”), but also epistemological theory *detailed enough* to get a serious grip on specific questions

²⁶ John Stuart Mill, *A System of Logic: Being a Connected View of the Principles of Evidence and the Methods of Scientific Investigation* (1843; 8th ed., London: Longman, Green, 1970), 7. Nowadays, we would probably say, not “judge of evidence,” but “judge the weight [or the worth] of evidence”; but Mill’s phrase is exactly apt—as is his addendum, “and act accordingly”: the navigator must assess the evidence, that, say, a storm is coming, and do what is necessary to protect his ship, a physician must assess the evidence that, say, the patient is having a heart attack, and treat him appropriately, and so on.

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raised by evidentiary procedures in the law; and, of course—well, *true* epistemological theory.

When I speak of the relevance of epistemology to the law, I refer to the field or discipline of epistemology, *not* to a professional specialism—which is by no means the same thing. Of late, philosophy has become hyper-professionalized and hyper-specialized,²⁷ so that by now there is a whole cadre of people self-identified as epistemologists. And these days many seem to use the word “epistemology” to refer to whatever those who identify themselves professionally as specialists in epistemology do. But this, while no doubt helpful to the careers of members of the guild, threatens to narrow the scope of the epistemological enterprise to issues that happen to be fashionable in the Analytic Epistemologists’ Union (AEU).²⁸ Indeed, so severe is the hyper-specialization that the AEU seems, in turn, to have splintered into sub-groups—the virtue epistemologists, the feminist epistemologists, the social epistemologists, etc. Moreover, self-styled “social epistemologists” are sometimes thought, by themselves and others, to have the monopoly on legally-relevant epistemology.²⁹ But this, though again no doubt helpful to the careers of members of the guild, threatens to narrow the scope of the epistemological ideas brought to bear on the law even further, to the current preoccupations of this sub-group—which is particularly unfortunate when, as happens more often than one would like, social epistemology is conducted without benefit of a good understanding of evidence and its quality.³⁰

Neither *all* the work of those specialists and sub-specialists in epistemology nor *only* the work of those specialists and sub-specialists is helpful in understanding the evidentiary issues with which the law deals. Some of the work of specialist-epistemologists (e.g., the seemingly endless attempts to refute the skeptic, those constantly-recycled “Gettier paradoxes,”³¹ efforts to catalogue

²⁷ See Susan Haack, “Out of Step: Academic Ethics in a Preposterous Environment,” in Haack, *Putting Philosophy to Work* (note 17 above), 251–68.

²⁸ My coinage, of course. See e.g., my “Foreword” to the 2nd ed. of *Evidence and Inquiry* (note 17 above), 23.

²⁹ For example, the only category acknowledged by the Philosophy Research Network (PRN: the relevant branch of SSRN, the Social Sciences Research Network) in which work on legal epistemology seems to belong is “Social Epistemology and Testimony.”

³⁰ For example, to judge by the index, in Alvin I. Goldman, *Knowledge in a Social World* (Oxford: Clarendon Press, 1999) (an influential foray into “social epistemology”) there are *no references to the concept of evidence*—except in the chapter on the law!

³¹ Edmund Gettier, “Is Justified True Belief Knowledge?” *Analysis* 23 (1963): 121–23; reprinted in Louis J. Pojman, ed., *Theory of Knowledge: Classical and Contemporary Sources* (Belmont, CA: Wadsworth, 2nd ed., 1998), 142–43. In a paper I wrote in 1983 but didn’t publish until 2009 (when a new wave of Gettierology was well under way), I had argued that these paradoxes arise from the mismatch between the concept of knowledge, which is categorical, and

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and classify the epistemic virtues)³² is irrelevant, or only marginally relevant, to legal concerns. Moreover, much work by specialist-epistemologists even on legally-relevant topics—e.g., about the evaluation of testimony, or the epistemological consequences of evidence-sharing—isn't detailed enough, or isn't detailed enough in the relevant respects, to be very helpful to an understanding of evidentiary issues in the law; and a good deal of the work of professional epistemologists (e.g., efforts to understand epistemic justification in terms of the truth-ratios of belief-forming processes)³³ is, to put it bluntly, just wrong-headed.³⁴

Besides, before the current hyper-specialization set in, when philosophers felt somewhat freer to go where their intellectual bent and the task at hand took them, inductive logician L. J. Cohen had contributed significantly to issues in legal epistemology.³⁵ And there have long been legal scholars and judges who have made real contributions to epistemological issues in the law: I think, e.g., of Jeremy Bentham's battery of criticisms of exclusionary rules of evidence;³⁶ of John Wigmore's diagrammatic representations of the structure of evidence;³⁷ of Judge Learned Hand's diagnosis of the "logical anomaly" at the heart of expert-witness testimony;³⁸ and of Leonard Jaffee's reflections on the role of statistical evidence at trial³⁹—to mention just a few. For that matter, there is a good deal of epistemology built into such routine legal materials

the concept of justification, which is gradational; and that in consequence there *can be no* definition of knowledge which doesn't *either* allow such paradoxes *or else* lead to skepticism. Susan Haack, "'Know' Is Just a Four-Letter Word," in Haack, *Evidence and Inquiry* (note 17 above), 2nd ed., 301–31. This diagnosis, I still believe, simply dissolves the supposed problem on which so much energy has been, and continues to be, wasted.

³² See e.g., Linda Zagzebski, *Virtues of the Mind* (New York: Cambridge University Press, 1996); Abrol Fairweather and Linda Zagzebski, eds., *Virtue Epistemology: Essays on Epistemic Virtue and Responsibility* (New York: Oxford University Press, 2001).

³³ See e.g., Alvin I. Goldman, "What Is Justified Belief?", in George Pappas, ed., *Justification and Knowledge* (Dordrecht, the Netherlands: Reidel, 1979), 1–21; *Epistemology and Cognition* (Cambridge, MA: Harvard University Press, 1986); "Two Concepts of Justification," in James Tomberlin, ed., *Philosophical Perspectives*, 2: *Epistemology* (Atascadero, CA: Ridgeview, 1988), 51–70.

³⁴ As I argued in excruciating detail in *Evidence and Inquiry* (note 17 above) chapter 7.

³⁵ L. Jonathan Cohen, *The Provable and the Probable* (Oxford: Clarendon Press, 1977).

³⁶ Bentham, *Rationale of Judicial Evidence* (note 23 above).

³⁷ John Henry Wigmore, *The Principles of Judicial Proof as Given by Logic, Psychology, and General Experience as Illustrated in Judicial Trials* (1913; 5th American ed., Littleton, CO: Fred B. Rothman & Co., 1981).

³⁸ Learned Hand, "Historical and Practical Considerations Regarding Expert Testimony," *Harvard Law Review* 15 (1901): 40–58.

³⁹ Leonard R. Jaffee, "Of Probativity and Probability: Statistics, Scientific Evidence, and the Calculus of Chances at Trial," *University of Pittsburgh Law Review* 46 (1984–5): 925–1083.

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as jury instructions on standards of proof,⁴⁰ and a good deal of epistemology implicit in judicial rulings.⁴¹

Thoughtful scientists have also made real epistemological contributions: Percy Bridgman,⁴² for example, whose reflections on the pointless “ballyhoo” made about the “scientific method” and the need to get down, instead, to the nuts and bolts of scientific work, reveal the naïveté of some judicial observations about the supposed method of science, notably Justice Blackmun’s comments on “methodology” in *Daubert*;⁴³ or W. K. Clifford,⁴⁴ whose reflections on when and why it is appropriate to rely on experts’ opinions, and when and why it is inappropriate, have a lot to teach us about expert testimony. And many novelists explore epistemological themes—often, to be sure, matters of epistemic character, with only indirect bearing on legal issues, as with Samuel Butler’s remarkable portrayal of self-deception, hypocrisy, and sham inquiry in *The Way of All Flesh*;⁴⁵ but sometimes strikingly legally relevant. You can learn a lot about what makes evidence misleading from Michael Frayn’s playful treatment in *Headlong*,⁴⁶ or (in a more directly legal way) from Scott Turow’s exploration in *Reversible Errors*.⁴⁷ You can learn even from (good) *bad* novels, such as Arthur Hailey’s *Strong Medicine*,⁴⁸ which is quite revealing

⁴⁰ See §4, pp. 16–18 below.

⁴¹ See, for example (on the weight of combined evidence), *Milward v. Acuity Specialty Prods. Grp., Inc.*, 639 F.3d 11 (1st Cir. 2011).

⁴² Percy W. Bridgman, “On ‘Scientific Method’” (1949), in Bridgman, *Reflections of a Physicist* (New York: Philosophical Library, 2nd ed., 1955), 81–83, 81.

⁴³ *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 589–95 (1993) (“*Daubert III*”).

⁴⁴ William Kingdon Clifford, “The Ethics of Belief” (1877) in Clifford, *The Ethics of Belief and Other Essays*, eds. Leslie Stephen and Frederick Pollock (London: Watts & Co., 1947), 70–96, 85 ff.

⁴⁵ Samuel Butler, *The Way of All Flesh* (1903; New York: American Library, 1998). This semi-autobiographical *Bildungsroman* tells the story of a young man who grows from callow boy to self-deceived curate, and finally, after professional and personal disgrace, achieves intellectual adulthood. It is discussed at length in Susan Haack, “The Ideal of Intellectual Integrity, in Life and Literature” (2005), in Haack, *Putting Philosophy to Work* (note 17 above), 209–220.

⁴⁶ Michael Frayn, *Headlong* (New York: Picador, 1999) tells the story of a hapless philosophy lecturer who, hoping to buy a painting cheaply from his financially stressed and artistically clueless aristocratic neighbor, uncovers evidence suggesting that the painting is, as he suspects, a missing Bruegel—no, that it isn’t—yes, that it is—no, that it isn’t, . . . , and so on and on through the whole book.

⁴⁷ Scott Turow, *Reversible Errors* (New York: Warner Vision Books, 2002) tells the story of an attorney who, required by the court to take on the last-minute appeal of a death-row inmate, uncovers more and more evidence indicating that his client is guilty—until, at last, he finds the one piece of evidence that puts all the rest in a different light, and shows the client to be innocent after all.

⁴⁸ Arthur Hailey, *Strong Medicine* (London: Pan Books, 1984) tells the story of a drug company’s development of a drug against morning-sickness in pregnancy, a drug that turns out

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about what can go wrong, epistemologically speaking, with a pharmaceutical company's trials of a drug.

Of course legal epistemology, like all legal philosophy, is inherently susceptible to certain pitfalls. One very real danger, foreshadowed in the quotation from Bacon with which I began, is ascending to so high a level of abstraction that you fail to engage in a meaningful way with any real-world legal system. And then there's the opposite danger, being so closely concerned with the evidentiary practices of a particular jurisdiction that you fail to engage with legal practices that are even slightly different—a danger Bacon also notes; though he attributes it to lawyers, who, he complains, “write according to the states where they live, what is received law.”⁴⁹ It's also all too easy to confuse the epistemologically ideal with the best that's practically feasible—and it can be very hard to figure out what practical constraints we simply have to live with, and what could, and perhaps should, be overcome. And yet another problem is keeping clear which elements of the rationale for, or which elements of criticisms of, various evidentiary rules and procedures are truly epistemological, and which depend, rather, on concern for various policy objectives.

Then there's what I think of as the problem of “conceptual slippage”: the small (and sometimes not-so-small) differences between legal and epistemological uses of the same terms. The concept of *evidence*—which in legal contexts includes physical evidence, rarely considered by epistemologists, is itself an example; then there's *reliability*—a technical term in reliabilist epistemology and, since *Daubert*, a very different technical term in US evidence law, and moreover one that doesn't, like the ordinary concept, come in degrees;⁵⁰ *causation*—which, as articulated over centuries of tort law, has diverged both from ordinary and from scientific usage;⁵¹ and *knowledge*—which, as it appears in “*scienter*” requirements, e.g., that the defendant “knew or should

to cause terrible birth defects. (Bendectin, the drug at issue in *Daubert*, which the plaintiffs believed had caused their son's birth defect, was also prescribed for the treatment of morning-sickness.)

⁴⁹ Bacon, *The Advancement of Learning* (note 1 above), 295.

⁵⁰ *Daubert III* (note 43 above), 590 n.9. I should note that Federal Rule of Evidence 702 (which *Daubert III* was interpreting) was modified in 2000, coming into effect in its modified form in December that year; and was “restyled” in 2011; and now requires that expert testimony be “based upon sufficient facts or data,” is “the product of reliable principles and methods,” “which the witness has applied ... reliably ... to the facts of the case.” The first of these three clauses may hint at a gradational understanding of “reliable”; but the second and third, like that footnote in *Daubert III*, suggest a categorical understanding.

⁵¹ See e.g., Lawrence M. Friedman, *A History of American Law* (New York: Simon and Schuster, 1973), 409 ff.