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Abstract

This review essay discusses Alex Stein's recent book *Foundations of Evidence Law*. It focuses on explicating the book's general normative framework and then offers a critique of that framework from within the domain of political morality. Part I discusses Stein's views about the purpose of evidence law and the importance of error allocation. Part II explains how Stein derives his normative principles from probability theory. Part III discusses the book's master principle—the principle of maximal individualization. Part IV explains how this principle operates, along with two additional principles ("equality" and "equal best"), to regulate evidentiary issues. Part V evaluates the overall theory in light of two goals that the law of evidence must satisfy to a significant degree in order to be justified in terms of political morality: error reduction and the fair allocation of the risk of errors that do occur. The critique developed in this essay offers some reasons to question the extent to which Stein's theory would achieve either goal. The general theme of the critique is that a greater focus on the epistemology of proof would also lead to a more morally justified proof process, and thus that the epistemic and moral domains are more intertwined than the book supposes.

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Alex Stein may be the Ronald Dworkin of evidence law. Stein's book *Foundations of Evidence Law*[1] is, like much of Dworkin's work, broadly anti-Benthamite in spirit. Within the domain of general jurisprudence, Dworkin is one the harshest critics of—and provides the leading alternative to—the legal-positivist tradition that Bentham helped to foster, which insists on analytically separating law and morality, or more broadly law as it is and law as it ought to be. Within the domain of evidence law, Stein offers an alternative to Bentham's influential evidentiary views—most importantly, Bentham's arguments for the elimination of exclusionary rules and the institution of a largely "free proof" regime, which Stein harshly criticizes.[2] Moreover, like Dworkin's theory of law more generally, Stein attempts to locate and justify the law of evidence within the domain of political morality, that is, to legitimate and justify the coercive state authority that the law of evidence helps to initiate.[3]

The similarities do not stop there. Stein's methodology appears to be largely Dworkin inspired, employing criteria similar to Dworkin's adjudicatory criteria of fit and justification. Like Dworkin's judge Hercules, the "foundations" that Stein articulates seek to describe and explain (or "fit") many of the extant Anglo-American evidentiary practices in light of a few broad principles that in turn justify the practices in terms of political morality.[4] He then turns those

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[1] ALEX STEIN, FOUNDATIONS OF EVIDENCE LAW (2005).

[2] See generally Deirdre M. Dwyer, *What Does it Mean to be Free? The Concept of 'Free Proof' in the Western Legal Tradition*, 3 INT'L COMMENT. EVID. iss. 1, no. 6 (2005), at http://www.bepress.com/ice/vol3/iss1/art6/. For a discussion of Bentham's views regarding exclusionary rules and the process of proof, see WILLIAM TWINING, THEORIES OF EVIDENCE: BENTHAM AND WIGMORE 19-108 (1985). Stein also rejects Bentham's view that the privilege against self-incrimination primarily aids guilty defendants, and despite making several economic arguments, Stein rejects utilitarian justifications for many aspects of legal doctrine, appealing instead to individual rights. See STEIN, *supra* note 1 at 136-37, 158-64, 174-75, 214-18. Stein does not completely reject utilitarian justifications, however; he appears to endorse such justifications for certain aspects of legal doctrine that are justified on primarily on cost-efficiency grounds. One example is the regulation of public records. See *id.* at 136. The preponderance rule in civil cases may be another. See *id* at 144.

[3] For Stein, political morality requires that evidence law must meet three goals in order to be justified: minimize errors, reduce costs, and allocate the risk of errors. *Id.* at 11-12. He rejects other procedural rights that are not reducible to these goals, for example, a right to participation. See Lawrence B. Solum, *Procedural Justice*, 78 U.S.C. L. REV. 181 (2004). For Dworkin, at the jurisprudential stage the goal is to articulate principles that justify the state's coercive authority, which are then implemented at the doctrinal stage. See RONALD DWORKIN, JUSTICE IN ROBES 12-18 (2006); RONALD DWORKIN, LAW'S EMPIRE (1986). Stein follows a similar plan.

[4] See DWORKIN, LAW'S EMPIRE, *supra* note 3 at 239-58. Stein describes his overall views as follows: "My descriptive argument holds that these principles explain many of the existing evidential rules and doctrine. My normative theory holds that evidence law ought to afford formal recognition to these principles and apply them across the board." STEIN, *supra* note 1 at 139. The details of the principles and how they are derived are explicated below.

principles back on the practices that are out of tune, for which he prescribes revision. And sometimes radical revision is indeed prescribed. In other words, Stein's methodology appears to be to interpret evidence law "in the best light."[5] Moreover, in terms of exposition, as with Dworkin, the arguments reach powerful and often bracing conclusions, yet they can be dense and complex, often introducing terminology and qualifications that may not become clear to the reader (if at all) until several pages (or chapters) later. As with Dworkin, Stein's book is not an easy read, nor one a reader can dip into lightly or selectively and still grasp its grand vision—to appreciate its significance one needs to engage with it in detail and as a whole.

Connecting the foundations of evidence law with principles of general jurisprudence is a welcome development. An artificial divide in legal scholarship has existed, based in part on the unstable distinction between "legal" and "factual" questions.[6] As William Twining has observed:

> Pascalians and Baconians do not discuss the application of Bayes' Theorem to appellate cases anymore than Dworkinians and positivists discuss the logic of proof. Both groups seem to be applying general jurisprudence, yet, as we have seen, the law-fact distinction is culture specific. The segregation of these bodies of literature seems to be based on an artificial and notoriously problematic distinction.[7]

Stein's book not only bridges this gap, it does so with a host of intellectual tools. It draws heavily on epistemology, probability theory, economics, and game theory to justify its principles and their applications. In sum, the book offers a part-descriptive, part-explanatory, part-normative theory of the principles that form the foundations of the law of evidence, justified in part by philosophy (part morality, part epistemology) and in part by probability theory and in part by economic theory, applied to virtually every aspect of the law of evidence and proof,

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[5] DWORKIN, LAW'S EMPIRE, *supra* note 3 at 226; see also Ofer Raban, *Dworkin's 'Best Light' Requirement and the Proper Methodology of Legal Theory*, 23 OXFORD J. LEG. STUD. 243 (2003). Stein's methodology also resembles the Goodman-Rawls notion of "reflective equilibrium." Stein further explains that he proceeds "endogenically." STEIN, *supra* note 1 at 139. There are some important differences between Dworkin's theory of law and Stein's theory of evidence. Dworkin's Hercules may not justify decisions on policy grounds; Stein explicitly draws on such considerations in justifying his principles of evidence law. Moreover, Dworkin's theory of adjudication is driven more by a goal of determining the right answer to legal questions; Stein's theory is driven more by allocating the inevitable errors that will be made.

[6] See Ronald J. Allen & Michael S. Pardo, *The Myth of the Law-Fact Distinction*, 97 NW. U. L. REV. 1769 (2003); Ronald J. Allen & Michael S. Pardo, *Facts in Law and Facts of Law*, 7 INT'L J. EVID. & PROOF 153 (2003).

[7] William Twining, *Civilians Don't Try: A Comment on Mirjan Damaska's 'Rational and Irrational Proof Revisited*.' 5 CARDOZO J. INT'L & COMP. L. 69, 75 (1997).

including macro-level issues regarding the structure of proof (burdens and decision standards) and micro-level exclusionary rules (hearsay, character, experts, etc.).[8]

Given the book's complexity and comprehensiveness, any manageably sized review essay much make choices about which aspects to focus on and which to ignore. The first four parts explicate the book's general normative framework, and the fifth part offers a critique from within the domain of political morality in which the framework situates itself.[9] Part I discusses Stein's views about the purpose of evidence law and the importance of error allocation. Part II explains how Stein derives his normative principles from probability theory. Part III discusses the book's master principle—the principle of maximal individualization (sometimes "PMI"). Part IV explains how this principle operates, along with two additional principles ("equality" and "equal best"), to regulate evidentiary issues. Part V evaluates the overall theory in light of two goals that the law of evidence must satisfy to a significant degree in order to be justified in terms of political morality: error reduction and the fair distribution or allocation of the risk of errors that do occur. An evidentiary system is more justified to the extent it satisfies these goals and less justified to the extent it does not. My critique offers some reasons to question the extent to which Stein's theory would achieve either goal. The general theme of the critique is that a greater focus on the epistemology of proof would also lead to a more morally justified proof process, and thus that the epistemic and morals domains are more intertwined than the book supposes.

I. The Purpose of Evidence Law

For law to enforce legal rights and obligations, and to effectively guide and constrain the conduct of citizens, courts need to be able to form reasonably accurate conclusions about the events that give rise to litigation and other relevant states in the world. The law of evidence regulates the process by which parties prove and by which courts and juries decide these factual issues. Part of this task is epistemological: to regulate the evidentiary inputs and reasoning processes at trial in ways that lead to more reliable, better justified, and ultimately more

[8] (Did I mention it's not an easy read?)

[9] This essay largely ignores Stein's arguments regarding cost efficiency (another important goal that any justified law of evidence must satisfy to an acceptable level). It also ignores Stein's arguments regarding constitutional criminal procedure rules such as the Fourth Amendment exclusionary rules and the Fifth Amendment privilege against self-incrimination. For a recent discussion of Stein's arguments regarding the latter see Roger C. Park & Michael J. Saks, *Evidence Scholarship Reconsidered: Results of the Interdisciplinary Turn*, 47 B.C. L. REV. 949, 1018-22 (2006). This essay also ignores many of the details of Stein's doctrinal discussions of the rules relating to hearsay, character evidence, and experts, except in so far as those details are necessary to explicate or critique Stein's normative framework.

accurate decisions. Part of this task is economic: because of limited time and resources, the economic costs of any procedure must be considered, and compared with, any epistemological benefits the procedure may bring. Part of this task is moral: certain parties will suffer the consequences of factual errors and the legitimacy of the state's authority is bound up with how the law allocates the risk of these errors. This is orthodoxy in evidence scholarship.

Stein accepts this orthodoxy. The significant and controversial facets of his book are in the ways he explores these three aspects and how he explicates the relationships between them. He argues that the moral issues regarding the risk of errors are distinct from the epistemic issues and come into play whenever the epistemic issues run out. In Stein's phrases "morality takes up what the epistemology leaves off"[10] and the moral domain "fills up the epistemic void."[11] The basic idea seems to be something like the following. The epistemological issues concern the attempts by impartial fact-finders to form true and epistemically justified conclusions based on the evidence presented. Fact-finders determine the likelihood of relevant propositions based on empirical criteria including common sense, logic, experience, and scientific knowledge. The law of evidence supplements this process with a "best evidence" principle in which the law tries to secure types of evidence deemed to be superior and to exclude inferior evidence. But the epistemic demands made on fact-finders do not require perfection—fact-finders form probabilistic judgments that do not rise to the level of knowledge (in the epistemic sense of justified true beliefs). This gap between the epistemic demands made at trial and the epistemic demands required for knowledge means that errors will be inevitable. This is the gap that must be addressed by risk-allocation decisions.

After distinguishing the moral aspects from the epistemic ones, Stein argues that the moral aspects permeate every evidential decision. He traces the current trend toward a system of "free proof" (or the relaxing of exclusionary rules and a drift toward judicial discretion) to epistemic confidence in fact-finders and a failure to grasp the moral significance of the inevitable epistemic failures of legal decisions.[12] As noted above, this moral dimension is recognized in evidence law; however, it is often confined to issues regarding burdens and standards of proof (and to the constitutional procedural protections provided criminal defendants). Stein argues that this attempt to doctrinally separate the moral and epistemic aspects is a mistake because *every* evidential decision and thus *every* feature of evidence law allocates the risk of error one way or the other, and thus

[10] STEIN, *supra* note 1 at xi.
[11] *Id.* at 91.
[12] Stein traces this "normatively indefensible" trend to Bentham. *Id.* at 116, 119.

implicates the moral aspects of evidence law.[13] This is so, he argues, because every decision that affects the evidential base upon which probability judgments will be made, will also impose a risk of error on one party or the other due to the inevitable epistemic gap.[14] In other words, while one could conceive of the macro-level evidentiary issues regarding burdens and standards to be about error allocation and the micro-level admissibility issues to be about error reduction,[15] Stein rejects this conception. Like the metaphorical turtles, for Stein it is risk allocation all the way down.

Because every evidential decision thus implicates the morality, and hence the political legitimacy, of evidence law, each evidentiary decision must be justified from within this domain. For Stein the failure to recognize this conclusion is precisely where the trends toward free proof and discretion go wrong. If every decision allocates risk, and how it does so needs to be justified in terms of political morality, then these decisions need to be public, reasoned, and regulated by the law of evidence, not the product of private, unarticulated choices by politically unaccountable decision-makers.[16] Stein thus argues that, because political justification of evidential decisions is necessary, we need more regulation of the proof process, not less. Allowing fact-finders the discretion to allocate these risks of error as they deem fit in particular cases is morally unjustified and thus illegitimate.

Operating within these general conclusions about the purpose of evidence law, Stein articulates three normative principles that are intended to organize and regulate the law of evidence. These include, first, the principle of "maximal individualization," which delineates features that evidence must possess to be admissible and to be sufficient on which to base a judgment. The two other main principles are the "equal best" standard that regulates evidence in criminal trials and the "equality" principle that regulates evidence in civil trials. The principles are descriptive and explanatory of much current doctrine, Stein argues, but any

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[13] He writes: "evidential rules and principles . . . have a single all-important function: allocation of the risk of error," id. at 138, and "[a]llocation of the risk or error permeates adjudicative fact-finding," *id*. at 139.

[14] See *id*. at 132 ("The adjudicators' choice between admitting or excluding evidence with uncertain probative credentials boils down to a decision that prefers one type of informational void over the other. The zero-sum-game situation underscores the risk-allocating character of evidence selection.").

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

[16] He writes: "[m]oral and political in character, this aspect of fact-finding decisions should not depend on the preferences that adjudicators privately endorse. It merits both a principled and comprehensive regulation by the law of evidence." STEIN, *supra* note 1 at 139. Earlier he also writes that "[t]here is no moral, political, or economic justification for authorizing individual adjudicators (such as judges) to allocate the risk or error as they deem fit." *Id.* at xi.

doctrine that fails to conform ought to be changed.[17] Thus, while part descriptive and explanatory, the principles are ultimately justified based on the moral legitimacy they confer on evidence law; in Dworkin's sense, they purport to paint the landscape of evidence law in the best light.

II. How Stein Derives His Normative Principles

Stein derives his normative principles from features of probability theory and the various proof paradoxes. The familiar legal proof paradoxes such as the Blue Bus[18] and the Gatecrashers[19] share a structural similarity with familiar non-legal paradoxes such as Lottery[20] and Preface.[21] The important similarity has to do with the fact that the various scenarios provide probability data about a class of events, objects, outcomes, etc. and then ask for judgments about particular members within that class: For example, in the legal context we are told, in the Blue Bus scenario, what percentage of buses in a town are owned by the Blue Bus Co. and asked the likelihood that a particular bus was a blue bus, or, in the Gatecrasher scenario, we are told what percentage of rodeo attendees entered without paying and asked the likelihood that an individual in the stadium did so. Likewise, in the non-legal context, we are told the number of tickets in a fair lottery or errors in a book and asked the likelihood that a given ticket won or a particular page contains an error. The paradoxes arise in part because of a disparity between the probability that a particular member of the class has certain characteristics and the frequency of those characteristics in the class as a whole: first, each ticket either will win or will not and, second, the class members may differ with regard to other significant features (for example, some of the Blue Bus Co. drivers may be worse than others and some rodeo attendees may be more honest than others). The inferential move from a purported general uniformity for a class to a decision about a particular member of that class creates, Stein explains, "epistemological disorder,"[22] and conclusions about individual members are not warranted because they are "unevidenced."[23]

With the epistemic gap between class and individual identified, Stein then purports to "solve" or explain away the paradoxes through a discussion of probability theory. Here he relies on Cohen's distinction between Pascalian and

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[17] See *supra* note 5 and accompanying text..

[18] I assume that readers of this journal are already familiar with the basics of the paradoxes and provide only those details necessary to explicate, and later critique, Stein's views.

[19] See L. JONATHAN COHEN, THE PROBABLE AND THE PROVABLE 74-75 (1977).

[20] See JOHN HAWTHORNE, KNOWLEDGE AND LOTTERIES (2004).

[21] See David C. Makinson, *The Paradox of the Preface*, 25 ANALYSIS 205 (1965).

[22] STEIN, supra note 1 at 67.

[23] *Id.* at 85.

Baconian (or inductive) probability[24] and Keynes' distinction between probability and weight.[25] The crucial difference between the Pascalian and Baconian framework for Stein's analysis is how each deals with missing information. The Pascalian framework attaches cardinal probability assessments to propositions based on the available evidence; by contrast, the Baconian framework assesses the probability of a proposition based the amount of evidence that supports the proposition.[26] Stein brings these frameworks together with the notion of evidentiary "weight." We can make judgments about how strong or "weighty'" the evidential base is that supports a Pascalian probability assessment.[27] Weight, for Stein, is measured not only by how much information makes up the evidential base but how "resilient" the evidential base is—that is, how likely the probability assessment would be to survive or remain stable if additional information were added to the base.[28] Stein then maps these considerations onto the process of legal proof as follows: Decision standards require fact-finders to assess whether the likelihood of certain propositions meets (cardinal) probability thresholds, but the law of evidence must ensure that the evidential bases on which the assessments are made are sufficiently weighty or resilient. So, for example, in the Blue Bus scenario, the probability judgment that the defendant (the Blue Bus Co.) is 0.8 likely to have caused the accident would, in a civil case, surpass the probability threshold for the preponderance-of-the-evidence standard of 0.5, but this judgment would not be very weighty or resilient because there is a great deal of missing information that could undo it.[29]

Stein's "solution" to the paradoxes is thus to explain them away by noting that the Pascalian probability judgments in the various scenarios are not particularly weighty with regard to individual members and hence judgments that the members have been proven to have the relevant characteristics are unwarranted. With regard to the gatecrashers, when directed at an individual

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[24] See COHEN, *supra* note 19.

[25] See JOHN MAYNARD KEYNES, A TREATISE ON PROBABILITY 77 (1921); see also L. Jonathan Cohen, *Twelve Questions about Keynes' Concept of Weight*, 37 BRIT. J. PHIL. SCI. 263-78 (1986).

[26] See STEIN, *supra* note 1 at 47. More specifically, the Pascalian framework accepts the complementation principle, that is, that the probability of a hypothesis and its negation must equal one. So, if based on a small amount of information the probability of H is 0.8, then the probability of not-H would equal 0.2. By contrast, under the Baconian framework, "informational voids do not evidence anything." *Id.*

[27] In a review of Stein's book, Mike Redmayne concludes that "Stein can probably be described as a Baconian." Mike Redmayne, *The Structure of Evidence Law*, 26 OXFORD J. LEG. STUD. 805, 807 (2006). Stein's framework, however, may be better described as trying to combine Pascalian and Baconian conceptions. He accepts Pascalian probability assessments but also requires that the evidential base from which one makes these judgments must satisfy a Baconian-inspired notion of weight.

[28] STEIN, supra note 1 at 48.

[29] *Id.* at 85.

defendant the general proposition about the number of gatecrashers provides a "slim evidential base," its weigh is "corresponding low," and thus the suit ought to be dismissed.[30] Likewise with Blue Bus: "The mere fact that the defendant, Blue Bus, operates 80 percent of the buses in town does not generate a weighty 0.8 probability . . . The claimant's allegation that he or she was actually hit by a blue, rather than red, bus is completely unevidenced."[31] Similar conclusions apply to the non-legal paradoxes. With the lottery, the proposition that a particular ticket is a loser is "simply unevidenced" and "the fact-finder cannot accept this proposition [that it lost] as true."[32] With the preface, there is "no epistemological warrant for ascribing any probability of error to any particular page of the book."[33] What we would need in order to form "evidenced" judgments about the individuals is more "individualized" or "case-specific" evidence: "The more case-specific evidence, the better."[34] From this consideration, Stein derives his general normative principle of evidence law: the principle of maximal individualization, according to which legal fact-finders must consider all case-specific evidence and parties may not introduce, nor may fact-finders rely upon, evidence not subject to such individualization. Satisfying the demands of the principle of maximal individualization makes probability judgments about individual cases "adequately evidenced."[35]

III. The Principle of Maximal Individualization

The principle of maximal individualization offers a "methodology for managing the uncertainty" involved in legal fact-finding.[36] Under Stein's framework, decisions made under this uncertainty involve two distinct tasks. First, one must determine the probability that the relevant propositions are true. Second, one must determine whether the evidential base upon which the probabilities were determined is sufficiently solid or weighty or resilient. Stein argues that fixing the appropriate levels of probability and weight will depend on how the law wants to apportion the risk of error, and therefore is a job for political morality, not epistemology.[37] Basing probability judgments on a slim evidential base is

[30] *Id.* at 85.
[31] *Id.* at 85. Stein's use of "unevidenced" is curious here. I would assume that even those who think the evidence is too weak to support a judgment would still think it is (relevant) evidence.
[32] *Id.* at 83.
[33] *Id.* at 83.
[34] *Id.* at 72.
[35] *Id.* at 102.
[36] *Id.* at 103.
[37] *Id.* at 48. See also id. at 49. ("There are no cogent epistemological reasons for rejecting adjudicative Pascalianism.").

morally unacceptable because it is "too risky."[38] In particular, it places an excessive risk of error on the party against whom the probability judgments are made because the judgments are "unevidenced" and unknown information could radically alter the relevant probabilities.

In Stein's view, the evidential base is only sufficient and morally acceptable once it has undergone certain testing and met certain requirements, and PMI provides these tests and requirements. Once the evidential base has satisfied PMI, it is "adequately evidenced" or has sufficient weight because it has overcome the problem of "evidential open-endedness"[39] and thus "informational closure"[40] may be posited. To illustrate the basic idea, consider a witness who testifies that she saw the defendant run a red light and cause the accident at issue in a case. In deciding whether to believe the witness, the fact-finder will inevitably rely on various generalizations such as "disinterested witnesses tell the truth *x* percent of the time," and may then infer that there is an *x* percent chance that the witness is telling the truth. At this point, however, an inference about the witness based on the generalization would be "unevidenced." The likelihood that the witness is disinterested is itself unknown and thus the connection from the generality to this event is too risky. PMI requires that we know more about this individual witness. We may learn that the witness is related to the plaintiff (which changes the applicable generalization and decreases credibility), or is a boy scout (perhaps increasing it), or is a convict (perhaps decreasing it), and so on. Only after the connection has been exposed to sufficient individualized testing, Stein contends, may fact-finders rely on it. The general point regarding the principle seems *not* to be that we must know every detail about every piece of evidence (which would be impossible), but that the law of evidence must regulate the process to individualize this evidence as much as is practically feasible in given cases.[41] The other principles help to bring PMI down to earth with specific doctrinal applications in criminal and civil cases, but as a general matter PMI is normatively attractive, Stein contends, because it prevents "evidential one-sidedness," which would skew the risk of error against the party whom the risky generalization disfavored (for example, the Blue Bus Co. or the opponent of the "disinterested witness"), and it helps to uncover doubts that attach to the allegations and generalizations offered by the parties.[42] PMI, he argues, protects parties from the risks of error associated with non-PMI-tested evidence, and it

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[38] *Id.* at 120.
[39] *Id.* at 100.
[40] *Id*. at 102.
[41] For this reason, the labels "individualized" and "case-specific" may be misnomers for the evidence Stein deems acceptable; rather, he appears to be advocating for smaller and more-detailed reference classes in which to place the evidence.
[42] *Id.* at 105.

gives parties an opportunity to challenge an opposing party's favorable generalizations regarding its evidence with competing generalizations.

An evidential base has sufficient weight and is "adequately evidenced" under PMI when it has met two criteria. It must be qualitatively sufficient and it must be quantitatively sufficient. *Qualitative* sufficiency refers to the individual items of evidence that make up the evidential base and requires that "evidence needs to eliminate any dependency on the information that determines its credibility."[43] Evidence meets this qualitative standard when it is "case specific," and it is "case specific" when it has met the dictates of PMI.[44] Exactly what makes evidence "case specific" is not entirely clear, but Stein provides some guidelines. Case-specific evidence, for example, provides the opposing party an opportunity to challenge the applicability of the inference from a covering generality to a conclusion from proffered evidence. For example, the inference from "disinterested witnesses tell the truth" and "John is a disinterested witness" to "John is telling the truth." Stein refers to these as "fact-generating arguments."[45] Case-specific evidence thus allows opposing parties the opportunity to develop counter fact-generating arguments by introducing alternative generalizations and new information about the evidence, for example, by showing John is not disinterested.[46] The standard for case specificity is met when "a fact-generating argument and its underlying evidence and generalizations unfold themselves to every practical testing for both relevancy and veracity, so that the opponent of the argument is able to examine its applicability to the case at hand."[47] In the witness example, "fact-finders need to have all available evidence that pertains to the witness's credibility, and the opponent of the witness's testimony must have an adequate opportunity to cross-examine the witness."[48] In the absence of case-specific evidence (for example, the Blue Bus scenario), the missing information "allows numerous generalizations to lay mutually inconsistent claims for the covering uniformity status in the case at hand."[49] PMI overcomes this open-endedness by requiring (1) that fact-finders receive and

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[43] *Id.* at 64, 121.

[44] There may be a circularity here: evidence is adequate when it meets PMI; evidence meets PMI when it is qualitatively (and quantitatively) sufficient; evidence is qualitatively sufficient when it is case specific; and evidence is case specific when it meets PMI.

[45] *Id.* at 99.

[46] More specifically, Stein explains that evidence is "case specific" when it allows litigants to (1) "develop fact-generating arguments that can stand against fact-generating arguments of their adversaries;" (2) "challenge the applicability of experience-based generalizations unfavourable to their cases;" and (3) "move the case from the unfavourable generalization to a different covering [generalization] that supports his or her allegations." *Id.* at 71.

[47] *Id.* at 100.

[48] *Id*. at 100.

[49] *Id.* at 100.

consider all case-specific evidence, and (2) not make a finding against a litigant unless the argument generating the finding was subject to PMI.[50] Once satisfied, fact-finders may justifiably posit "informational closure" (eliminating the open-endedness problem) and make probability assessments for the relevant propositions at issue in the case.

The second requirement for an adequately evidenced or weighty evidential base is that it be *quantitatively* sufficient. To satisfy this requirement the evidential base as a whole must "cover every segment of the relevant factual allegations."[51] This appears to mean simply that every proposition that a party must prove in a given case (the propositions for which it has the burden of proof), must be proven with *qualitatively* sufficient evidence that meets the minimum probability threshold.[52] The absence of case-specific evidence for a relevant proposition dictates that the evidential base is not weighty enough to support a finding of that proposition.[53]

IV. PMI and the Law of Evidence

Stein's position is that PMI dictates how the law of evidence ought to regulate the proof process. Such regulation has "a single all-important function: allocation of the risk of error,"[54] and it occurs on two levels (1) setting the appropriate burdens and standards, expressed as probability thresholds, and (2) regulating the evidential base on which fact-finders form their probability judgments. PMI cuts against the dominant trend in evidence law—toward a more "free proof" system, in which exclusionary rules are relaxed—and requires tighter control of the proof process. Tighter control of the process is necessary because any decision to admit or exclude evidence at the same time allocates the risk to one party or the other: "excluding or admitting evidence with uncertain probative credentials boils down to a decision that prefers one type of informational void over the other."[55] Moreover, giving parties the freedom to add evidence to the evidential base that

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[50] *Id.*

[51] *Id.* at 64, 121.

[52] For an example of quantitative insufficiency, Stein offers the example of Winans v. Attorney-General, AC 1287, 289 (1904), in which the Crown failed to offer case-specific evidence establishing that Winans had a "fixed and settled purpose" to remain in England at the time of his death. STEIN, *supra* note 1 at 125.

[53] It is not clear the extent to which parties without the burden of proof on an issue must also offer case-specific evidence for propositions on which they offer evidence. It would appear that, in civil cases, once a party with the burden on an issue has offered case-specific evidence on that issue, the opposing party would also need case-specific evidence to avoid summary judgment or judgment as a matter of law on that issue.

[54] *Id.* at 138.

[55] *Id.* at 132.

fails to satisfy PMI will allocate unacceptable risks of errors to their opponents. Parties should not be free to create such risks, and judges and juries should not be free to allocate the risks between the parties as they see fit.[56] A principled and detailed evidence law should regulate both.[57] Stein's main strategy for doing so is through exclusionary or pre-emptive rules that prevent parties from introducing evidence that fails to satisfy the evidential-adequacy requirements of PMI.[58] These rules should "aim at securing qualitative adequacy of the fact-finders' evidential base,"[59] and Stein argues they are normatively attractive because they allocate the risk of error "to the party whose evidence fails to satisfy the controlling adequacy standard."[60]

What PMI dictates, however, differs for parties in criminal and civil cases. Stein articulates PMI's doctrinal requirements with the help of two additional principles: the "equality" principle in civil cases, and the "equal best" principle in criminal cases.

A. The Equality Principle and Civil Cases

A principle of equality helps[61] to allocate the risks in civil cases. General fairness concerns require that parties in civil cases share in the risks of error in an equal manner. This gives rise, first, to a principle of "primary equality," which dictates that parties should be treated equally with regard to risk-allocation in every decision that relates to fact-finding. A related, second requirement is one of "corrective equality," which dictates that parties must assume the risks arising from their adjudication behavior.[62]

The primary-equality principle regulates evidence both at the level of allocating burdens and setting standards of proof and at the level of admissibility. At the first level, primary equality justifies the preponderance standard, which Stein interprets as the "P > .5" rule, under which "the claimant establishes as more probable than not facts relevant to a legal category that benefits him or her" and "[t]he defendant establishes as more probable than not facts pertaining to a

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[56] See supra note 16.
[57] See supra note 16.
[58] Stein explains in greater detail four general strategies for controlling the evidential base: exclusion, preemption (e.g., requiring an original document unless a good reason exists for not having it), corroboration, and cost-efficiency. *Id.* at 134-39
[59] *Id.* at 135.
[60] *Id.* at 134.
[61] Efficiency concerns come into play for Stein in that evidentiary procedure ought to aim to minimize the sum of the costs of fact-finding errors and the costs of the procedures that reduce those errors. *Id.* at 214.
[62] This latter requirement largely tracks, for example, evidential-damage doctrine relating to burden-shifting, spoliation, and tort remedies. See *id.* at 217-25.

category that benefits him or her (the 'affirmative defence' category)."[63] Stein accepts that the preponderance rule both treats parties equally with regard to errors and minimizes the total number of errors with regard to individual issues.[64]

Turning to admissibility, Stein argues that corrective equality should "render inadmissible any evidence that creates inequality between the litigating parties by imposing a non-reciprocal—and, therefore, inequitable—risk of error on its opponent."[65] Here corrective equality "joins forces" with PMI to regulate areas such as hearsay, character evidence, and opinion testimony.[66] These areas, and other admissibility issues, should be regulated by a common standard: "evidence not susceptible to individualized examination by litigants and fact-finders, or, alternatively, to adverse utilization by the party opponent is inadmissible."[67] Stein contends this principle justifies much of current doctrine. In the hearsay context, for example, unmitigated hearsay should be excluded, but many of the exceptions are justified because they do in fact allow for some kind of individualized testing (cross-examination of the declarant or another suitable witness) or adverse utilization.[68]

Finally, PMI and equality require a preference for case-specific over "naked statistical evidence." For example, in the Blue Bus example, "the claimant's action should be dismissed because it relies on a non-individualized generalization that the doctrine of chances provides."[69] But, such evidence may be relied on in civil cases when it is sufficiently weighty or resilient. For

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[63] *Id.* at 222.

[64] The preponderance rule minimizes the total number of errors, given the assumption that the evidence admitted will generally favor the party whose factual allegations are true. In other words, that the propositions that appear to be more likely will in fact be more likely to be true. Stein also offers a strong argument against "fractional awards" (viz., awarding the plaintiff 0.7 of requested damages if the fact-finder concludes the plaintiff's claim is proven to a 0.7 likelihood) on the ground that such a scheme would inadequately deter. See *id.* at 221. Interpreting the preponderance rule and the value of evidence in terms of cardinal probabilities, however, leads to problems from the perspective of error reduction. This is discussed *infra* in Section V.

[65] *Id.* at 225.

[66] *Id.* at 226.

[67] *Id.* at 227.

[68] More specifically, Stein justifies exceptions for spontaneous utterances and medical statements, see FED. R. EVID. 803(1), (4), on the grounds that the testifying witness will often be subject to cross-examination and able to provide additional information regarding the circumstances of the declarant's statement (and thus open to individualized testing). He justifies the exceptions for records, FED. R. EVID. 803(6)-(12), (14)-(17), (23), on the ground that they are not typically generated with particular trials in mind and the risks are thus likely to be distributed evenly between plaintiffs and defendants. Likewise, Stein distinguishes inadmissible character evidence, see FED. R. EVID. 404(a), from admissible evidence regarding motive, opportunity, plan, modus operandi, etc., see FED. R. EVID. 404(b), on the ground that the second (but not the first) is case specific and subject to more individualized testing. See STEIN, *supra* note 1 at 183-89.

[69] *Id.* at 239.

example, Stein discusses the House of Lords case, *Rhesa Shipping Co. v. Edmunds et al. (The Popi M)*, in which the plaintiffs, ship owners, could recover on an insurance policy only if they could prove that a "peril of the sea" caused the ship to sink.[70] The House of Lords concluded that a nameless peril will not do and that the plaintiffs needed case-specific evidence about a specific peril. Stein disagrees.[71] The plaintiffs' argument was that the aggregation of the probabilities of each possible peril exceeded 0.5. Because the set of possibilities was greater that 0.5, Stein contends they satisfied the preponderance standard.[72] In addition, Stein concludes that the evidential base was sufficient, presumably because the defendant's theory that general "wear and tear" caused the accident was ruled out, making it unlikely new evidence could point to a cause other than something from the peril set.[73]

B. The "Equal Best" Principle and Criminal Cases

A principle referred to as "equal best" allocates the risks of error in criminal cases. Under this standard, "[t]he legal system may justifiably convict a person only if it did its best in protecting that person from the risk of erroneous conviction and if it does not provide better protection to other individuals."[74] Part of this standard reflects the idea, enshrined in the beyond-a-reasonable-doubt standard, that false convictions are more costly than false acquittals. Under the "equal best" standard, however, not every risk of error a criminal defendant faces should be treated similarly. Some risks are "evidentially confirmed" (Risk I) and some risks lack "evidential confirmation" (Risk II).[75] Risk I errors are "deliberate" and exposing defendants to these errors is a matter of injustice.[76] Doing so would violate principles of fairness and equality—Stein explains, citing Dworkin, that in doing so the state "violates its obligation to treat [these] citizens with equal concern and respect."[77] By contrast, Risk II risks are "accidental" and it is a matter merely of "misfortune" or "bad luck" when defendants are exposed to and suffer the consequences of these errors.[78] The equal-best principle, working with PMI, attempts to immunize defendants from Risk I errors.

As with civil cases, regulation of the proof process in criminal cases occurs at two levels: burdens (and decision standards) and admissibility rules that

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[70] 2 All ER 712 (1985) (HL).
[71] STEIN, supra note 1 at 240.
[72] *Id.*
[73] See *id.* at 128-31, 240.
[74] *Id.* at 175.
[75] *Id*. at 173.
[76] *Id.*
[77] *Id.* at 175.
[78] *Id.* at 173.

affect the evidential base. Under equal-best and PMI, fact-finders "are allowed to convict" a defendant only when "evidence incriminating [a defendant] generates [a] probability of guilt that comes close to certainty and survives maximal individualized testing. If these conditions are not fully satisfied, the accused must be acquitted."[79] In other words, Stein interprets the beyond-a-reasonable-doubt standard to incorporate his probability and weight requirements, but with a twist. Unlike the quantitative probability assessments in civil cases, the "next to certainty" requirement in criminal cases is not a cardinal number; it is "qualitative" and requires "the elimination of all evidenced and case-specific . . . scenarios in which the defendant is innocent."[80]

Turning to the evidential base, the equal-best principle and PMI require that defendants "never assume the risk of erroneous convictions that accompanies evidence and inferences not open to individualized testing."[81] Stein explains that this is not an "epistemological move"; it is moral and political.[82] The equal-best principle requires that all prosecution evidence that fails to satisfy PMI must be excluded. Similar to the equality principle in civil cases, the equal-best principle, Stein explains, justifies several of the rules regulating the exclusion and admission of hearsay and the contours of the character-evidence rules in criminal cases. In short, evidence generally excluded is not "case specific" or subject to individualized testing or adverse utilization (that is, it is not subject to use by the opponent to generate favorable inferences based on alternative generalizations); by contrast, the evidence admitted under these rules generally is specific and individualized.[83]

Perhaps Stein's most provocative normative suggestion concerns regulation of the defendant's evidentiary base. While Stein argues that his framework explains much of the law regulating prosecution evidence, he argues on normative grounds for radical revision in the law regulating defendants. He contends that such rules should apply asymmetrically—while prosecution evidence that fails PMI should be excluded, defendant's best available evidence should *never* be suppressed.[84] Equal-best requires that hearsay, character evidence, expert testimony,[85] or any other relevant evidence a defendant wishes to introduce should be admitted, if it is the best available evidence the defendant

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[79] *Id.* at 177. Given Stein's permissive language, presumably the fact-finder need not convict even when the probability is close to near certainty and survives PMI.

[80] *Id.* at 178.

[81] *Id.* at 177.

[82] *Id.*

[83] See *supra* note 69.

[84] *Id.* at 197.

[85] Stein contends that criminal defendants should not have to meet *Frye*- or *Daubert*-type reliability requirements before offering expert testimony. *Id*. Prosecution evidence, on the other hand, must satisfy *Frye*. *Id.* In civil cases, Stein recommends the *Daubert* standard.

has.[86] Finally, PMI entails that "[n]aked statistical evidence alone never warrants the defendant's conviction, regardless of how probable the accusations are."[87] Again, the reason is political and moral, not epistemological. Political legitimacy requires that a defendant have "an opportunity to disassociate his individual case from the statistically dominant category."[88]

V. A Critique of Stein's Normative Theory

The political morality of adjudicative decisions depends on the fairness of the procedures employed and the extent to which the process succeeds or fails in producing factually accurate outcomes. The state's coercive authority is justified to a greater extent when it employs fair procedures and reaches a significant number of accurate decisions (and avoids a significant number of errors), and is less justified when it does not.[89] The legitimacy of adjudicative decisions thus depends on what Lawrence Solum has called the "hard problem of procedural justice," that is, when can citizens take themselves to be obligated *ex post* by the legitimate authority of decisions they believe or know to be in error?[90] The answer depends on whether *ex ante* the system employed fair procedures and was designed in a way likely to produce accurate outcomes. Accordingly, to achieve these conditions evidence law ought to strive to do two things in a socially acceptable manner: to reduce errors and to allocate the risks of errors that do occur between the parties in fair manner.[91] Stein's normative framework—his principles and their application—becomes less attractive to the extent it would fail to achieve either of these goals.[92] It would not necessarily be false, however. As Stein points out, even though he cannot prove his theory is correct "at the meta-theoretical level," criticisms of his theory must be compared with alternatives

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[86] Curiously, Stein claims that PMI also requires this asymmetric application. See *id.* at 193 ("Suppression of the defendant's best available evidence violates both PMI and the 'equal best' standard."). PMI, however, is about whether evidence has or has not been subject to certain testing, and the principle (in Stein's descriptions) requires exclusion when it has not been. See *id.* at 64, 71, 121. Therefore, it is hard to understand how the principle could require inclusion when evidence, by hypothesis, fails to satisfy its requirements. A more charitable reading might be that the "equal best" principle overrides or trumps PMI when it comes to defendants.

[87] *Id.* at 207.

[88] *Id*. at 207. In discussing statistical evidence, Stein also asserts that "DNA evidence alone is never sufficient for convicting the accused." *Id.* at 204, n. 120.

[89] These goals are subject to cost-efficiency considerations as well.

[90] See Solum, *supra* note 3 at 190.

[91] Again, subject to cost-efficiency considerations.

[92] The descriptive and explanatory aspects of his theory also would fail to the extent that they cannot account for extant evidentiary doctrine and practices; however, normative theorizing appears to be Stein's main focus and thus he can maintain that unaccounted-for practices ought to be changed to accord with his theory.

because "it takes a theory to beat a theory."[93] Thus any critique must provide an alternative that better achieves the goals of evidence law.

My critique below provides some reasons to think that Stein's theory fails with regard to both goals compared with the status quo. I also sketch how alternative theories may be able to escape points of criticism and perhaps improve on the status quo. Most of the specific criticisms flow from two general assumptions that animate Stein's theory, and which I reject. The first concerns the role of epistemology, and its relation to evidence law in general and the related issues of political morality in particular. The epistemic issues are deeper, more pervasive, and more intertwined with the moral issues than Stein's discussion presupposes. The second assumption concerns Stein's acceptance of a Pascalian framework for structuring the proof process and the probative value of evidence. This is not a given, and it drives much of Stein's analysis, including PMI. The two assumptions are related. A greater attention to the epistemology suggests a rejection of Stein's Pascalian assumptions and also suggests alternatives that may better meet the goals of error reduction and error allocation.

Any form of social inquiry that seeks to arrive at true conclusions from evidence is epistemic in nature. Stein, however, takes a narrow view of epistemology in order to limit its application in the domain of evidence law. Most importantly, Stein assumes that because fact-finder conclusions are fallible, they fail to be knowledge. He writes, for example, that "[a]djudicators do not even purport to satisfy the 'justified true belief' standard or similar criteria for knowledge."[94] This uncertainty purports to open up a space for evidence law to do its (purported) real work: allocating the risk of error. Stein, however, adopts a rather narrow view of epistemic justification: the reasons that one has for believing a proposition must "track" or be the reasons that make the proposition true.[95] Epistemological theory, however, includes much broader notions of justification than Stein acknowledges, notions which have greater relevance for evidence law. For example, philosophers have elucidated the ways in which justification may shift based upon context and with the practical interests at stake in that context.[96] Specifically, justification often involves eliminating relevant alternative hypotheses and may require more evidence when the stakes are higher. The connections to the legal proof process are obvious: fact-finders must select among the plausibility of relevant alternatives and they need to be more justified in order to convict in criminal cases (where the stakes are higher). Thus there is a

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[93] STEIN, *supra* note 1 at 138.
[94] *Id.* at 59.
[95] *Id.* at 58.
[96] See DAVID LEWIS, *Elusive Knowledge*, in PAPERS IN METAPHYSICS AND EPISTEMOLOGY 418-45 (1999); JASON STANLEY, KNOWLEDGE AND PRACTICAL INTERESTS (2005).

very real sense in which we can speak of the epistemic justification of fact-finders' decisions.[97]

Epistemic justification is precisely what drives Stein's analysis of the paradoxes and the source of his main principle: PMI. In diagnosing the paradoxes, Stein initially accepts Pascalian probability assessments as measures of the strength of the evidence (e.g., that it is 0.8 likely a Blue Bus Co. bus caused the accident), but then, recognizing the inadequacy of the support for these conclusions, he brings in the notions of weight and case specificity. The reason the conclusions are inadequate is that a fact-finder would not, for example, be epistemically justified in inferring that it was a Blue Bus Co. bus rather than, say, a Red Bus Co. bus. Stein is explicit about this. He writes regarding the paradoxes that there is "no epistemological warrant" for ascribing a probability to the single events described in the various scenarios.[98] And rightly so. Stein has latched on to the reference-class problem, which is primarily an epistemological limitation on drawing conclusions about a specific event (person, etc.) based on statistics regarding a class of which it is a member.[99] Even though we know about the number of Blue Bus Co. buses in the town (the class), this doesn't tell us very much about the likelihood that *this bus* (the one that caused the accident) was blue. Additional information could radically alter the base-rate probabilities, for example, perhaps only 0.1 of the buses on the particular street are Blue Bus Co.'s buses and 0.9 are Red's. Adding more and more information may alter the relevant probabilities, often dramatically. This appears to be why Stein wants to build in a requirement (PMI) that more details about the relevant evidence must be adduced before fact-finders may posit "information closure" and then make their cardinal probability assessments.[100] Stein concludes that it is morally unacceptable to base probability judgments on a slim evidential base because the judgments would be too risky. The reason that the judgments would be too risky and hence morally unacceptable is that they are epistemically unjustified. Examining the epistemology of Stein's theory allows us to evaluate more closely whether it would reduce errors and how it would allocate the risk of those errors that it tolerates.

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[97] Justification is important epistemically because of its connection to truth. Better justified conclusions or beliefs are more likely to be true than less justified ones. Moreover, justification is more transparent than truth; we may not know whether a proposition is true but we can assess the justification for believing it and take justification as a mark of truth.

[98] STEIN, *supra* note 1 at 83.

[99] Ronald J. Allen & Michael S. Pardo, *The Problematic Value of Mathematical Models of Evidence*, 36 J. LEG. STUD. 107 (2007); Alan Hájek, *The Reference Class Problem is Your Problem Too*, 156 SYNTHESE 563-85 (2007).

[100] Given this specifically epistemological limitation—which appears to motivate PMI—it is surprising that Stein writes that "[t]here are no cogent epistemological reasons for rejecting adjudicative Pascalianism." STEIN, *supra* note 1 at 49. This looks like just such a reason.

A. The Epistemology of Stein's Theory

Given the two goals of error reduction and error allocation, we can now examine Stein's strategy for overcoming the epistemic limitation he identifies. His strategy rests on two pillars: probability assessments and requirements to ensure that the evidential base is sufficiently weighty or resilient (that is, unlikely to change with new information). Turning first to the probability assessments, it is not clear what analytical work they are doing. One wonders why, if we are not epistemically warranted in concluding that it is 0.8 likely that the bus in our paradox was a blue bus and it would be morally unacceptable to do so, Stein accepts the probability judgment at face value. In other words, rather than concluding that this proposition has been proven to 0.8 (or beyond 0.5), but that the evidence for it is not weighty, why not conclude instead that the proposition has not been proven by a preponderance of the evidence?[101] Moreover, even when he hypothesizes that the evidential base is adequate to prove a proposition, Stein is not always clear about where the numbers are supposed to come from. The fact that they are "judgments," however, implies some subjective assessment by the fact-finder. And there is no reason to think that these judgments—whether they come from fact-finders simply accepting the numbers at face value or from making up their own numbers (or trying to consult their own level of certainty)—will reduce errors and lead to more accurate judgments. The objective numbers are unwarranted because of the reference-class problem,[102] that is, the objective numbers refer to the distribution of characteristics among a class of individuals (blue buses in the town) not to the probability that each item will possess those characteristics (this bus is blue). Moreover, the subjective numbers may have no relation at all to reality. In addition, just as Stein argues with regard to non-weighty evidence, fact-finders making probability judgments from weighty evidence may, in effect, be allocating risk however they want. As a general matter, then, reliance on cardinal probability judgments thus does not seem to play any role in either error reduction or error allocation.

Furthermore, Stein's acceptance of the "P > 0.5" rule for civil cases leads to an additional problem with regard to error reduction. Under his interpretation, in a case where the plaintiff's theory was judged to be 0.4 likely, and the defendant offered an alternative theory that was judged to be 0.1 likely (or even offered two theories, each of which were judged to be 0.1 likely), judgment would go for the defendant. This is perverse given the goal of error reduction. Here, the

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[101] The acceptance of these unwarranted probability assessments forces Stein to turn toward the evidential base.

[102] See Allen & Pardo, supra note 99. Only if we knew there was relative homogeneity among the individuals in the class would an inference from class to individual be epistemically warranted (a condition missing in the bus example).

plaintiff's theory was four times (or twice) as likely as the defendant's, and thus more likely to be true given the evidence in the case. Any theory interested in reducing errors in civil cases ought to recognize this comparative aspect and, thus, ought to conclude that the plaintiff should win. This could be done by retaining Stein's acceptance of cardinal probability assessments, but given that these are epiphenomenal or worse,[103] an alternative theory interested in error reduction would simply ask jurors to infer the most plausible explanation of what occurred and find for the party this explanation favors.[104]

Turning to the evidential base, Stein's solution to the epistemic problems inherent in the probability assessments that he analyzes is to require more specific or individualized evidence. But there are reasons to think that, as a general matter, the PMI approach would not adequately improve error reduction or error allocation. Beginning with error reduction, producing better evidence will of course lead to more accurate judgments. But, first, increased specificity of evidence does not necessarily produce better results because reliance on such evidence will not necessarily solve the reference-class problem or take one closer to an accurate judgment. Return again to the blue-bus hypothetical and assume that a Blue Bus Co. bus did, in fact, cause the accident, and that the Blue Bus Co. owns 0.8 of the buses in town. Suppose the evidence becomes more specific and we learn that the Red Bus Co. owns 0.9 of the buses on the particular street, and owns 0.9 of the buses running at the time of day of the accident, and that the street where the accident occurred is on the route of the Red Bus Co.'s most unsafe driver, who himself has caused 0.9 of the bus accidents in town in the past year. We now have more specific evidence, we have significantly reduced the size of

[103] They would be epiphenomenal if they do no independent work in assessing the evidence. They could be worse because of the conjunction paradox. If juries are told to find each element to 0.5, then a plaintiff with a two-element claim could win by proving each to 0.6, even though the likelihood of her claim being true is only 0.36 (assuming the elements are independent). This would cut against both the goal of error reduction (by not finding for the party whom the evidence as a whole favors) and treating parties equally (defendants are systematically assuming more risk than plaintiffs). Stein offers an economic argument for why certain elements should not be combined with other elements, but he concedes that sometimes elements should be combined. See STEIN, *supra* note 1 at 53 n. 70. Any time elements are combined this problem will arise. Thus, even if Stein's analysis of the paradox is right, it only alleviates the problem somewhat; it does not eliminate it.

[104] Sometimes these explanations can be quite general and disjunctive. See Michael S. Pardo & Ronald J. Allen, *Juridical Proof and the Best Explanation*, LAW & PHIL. (forthcoming 2008). This would be consistent, for example, with Stein's analysis of the *Rhesa* case, see STEIN, *supra* note 1 at 240 —the best explanation of the ship sinking was as the result of a peril of the sea— without having to go through the exercise of trying to conjunct the cardinal probability of each peril.

the reference classes, but the probability assessments are taking us away from the truth.[105]

While consideration of more specific evidence will not necessarily take us closer to the truth, sometimes the reverse is true: non-case-specific (non-individualized) evidence will be good evidence that does in fact takes us closer to the truth. Stein appears to recognize this point in discussing the *Rhesa* case, in which he asserts that statistical evidence about possible "perils of the sea" is sufficient evidence on which to base a judgment.[106] He reaches this conclusion after first concluding that the evidence is sufficiently weighty and resilient, presumably because the defendant's theory was determined to be unlikely. But even when alternatives have not been ruled out, and even when new information can undermine it, non-specific information may still be good evidence. For example, in an employment case in which the plaintiff alleges discrimination based on race, statistics about the employers' hiring or firing of similarly qualified employees of the same and different races can be not only good evidence but crucial.[107] To exclude this evidence, as PMI dictates, is likely to lead to more not less errors.[108] Whenever non-specific relevant evidence is admitted, it will lead to a more accurate decision if it is interpreted roughly accurately.[109] Moreover, whether the evidence is sufficient to support a judgment will often depend on the strength of the opposing side's evidence. Errors are likely to be reduced when we find for plaintiffs whose evidence, even if non-specific, is still better than their opponents'.

Stein's reliance on the concept of "informational closure" also leads to problems with regard to error reduction. Under Stein's framework, once an

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[105] Stein may respond that this evidence is still not specific enough to be relied upon, but even if so, the example reveals a crucial, general point: the maximally specific data would be the single event itself, which would have a probability of 0 or 1, respectively. Narrowing the size of the reference class (i.e., making the evidence more specific) does not guarantee or even necessarily improve how resilient the data are. What matters is the homogeneity of the particulars making up the class. Therefore, there is an important difference between the lottery paradox, on one hand, and the blue bus and gatecrashers, on the other. In the lottery we know that the particulars are alike in that each does in fact possess an equal probability of winning—we do not know, by contrast, that each bus or rodeo attendee is sufficiently alike in other relevant respects. This difference thus makes an inference about a particular lottery ticket far more warranted that one about a bus or rodeo attendee.

[106] See *id.* at 128-31, 201.

[107] More generally, Stein's framework has trouble explaining the admissibility of non-specific evidence even when the substantive law may require it (for example, disparate-impact cases).

[108] Stein may contend that the evidence in this example is in fact case-specific, but one can imagine a situation where the plaintiff has non-specific, but otherwise good, evidence. Perhaps strong epidemiological evidence is a good example.

[109] See LAUDAN, *supra* note 15 at 19. The law may have other reasons for excluding it, however, such as that its probative value is so low that it is not worth the time to evaluate it or to induce parties to offer better evidence.

evidential base is sufficiently specific, the problem of "evidential open-endedness" has been overcome and fact-finders are to posit "informational closure."[110] But, as noted above, fact-finders will never have fully complete information about the relevant evidence and events (if so, the outcomes would be certain and there would be nothing for fact-finders to do). For example, even if there is a great deal of specific information about a witness and her credibility, the jury will often not have fully specific information about the very testimony they are evaluating (that is, whether it is true or not). Rather than assume that they have all the relevant information (and posit "closure"), fact-finders could alternatively continue to be sensitive to this additional gap between the evidence and the event. Relying on their individual or collective background knowledge, if roughly accurate, about the significance of this additional gap is likely to lead to more accurate decisions than simply assuming the gap in the information does not exist.[111]

Given that Stein's main concern is error allocation, he may accept all of the above conclusions regarding his framework and error reduction. Even so, before we turn directly to error allocation, it is worth noting that whenever a system trades accuracy for error allocation it pays a tremendous social cost. A system that made tons of errors but spread them equally in civil cases (or skewed them at a socially appropriate level in criminal cases) would be unacceptable morally and politically. It would be unfair to individual parties, to victims, and to society. The law would fail to deter adequately and the uncertainty it fostered would create chaos. Any focus on allocation must work in tandem with a strong focus on accuracy, error reduction, on getting things right.[112] There is no reason to think that implementing PMI as a general matter will lead to more accurate outcomes than our current system. What might lead to more accurate outcomes would be a system that required fact-finders to make comparative assessments of the competing explanations or theories[113] and also provided juries with more guidance in how to do so.[114]

Turning to error allocation, it is not clear that PMI eliminates the concerns that motivate it. Two related factors produce this lack of clarity: the difficulty of determining what is and what is not "case specific," and the role of the fact-finder. While Stein gives us descriptions of what makes evidence case specific, at root,

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[110] STEIN, *supra* note 1 at 100-02.

[111] The role of juror background knowledge, which is indispensable for juridical fact-finding, does not sit well within Stein's theory. If some of the information on which a decision is based resides in the mind of fact-finders, it is hard to see how the law of evidence could pervasively regulate reliance on that information, which Stein's framework appears to call for.

[112] Stein recognizes this in endorsing a best-evidence principle, but error reduction involves more than trying to secure an individualized evidential base.

[113] See Pardo & Allen, *supra* note 104.

[114] See LAUDAN, *supra* note 15 at 63-88.

they all seem to boil down to the opponent of the evidence having an opportunity to challenge the evidence and what the proponent wishes the jury to infer from it.[115] Focusing on one example— hearsay—will illustrate the difficulties in identifying whether evidence is case specific. Applying PMI, Stein provides the following example of evidence that is not case specific enough and thus ought to be excluded: "a witness who testifies in a breach-of-contract lawsuit that his friend Heather related to him that the defendant confided to her that he intends not to perform his contract with the claimant."[116] The statement imposes a "non-reciprocal risk of error" on the defendant, who cannot adequately challenge the statement (it is not open to "adverse utilization").[117] The "best scenario" for the proponent is that the jury accepts the statement as proving breach, and the "worst scenario" is that the jury does not accept it.[118] There is thus no risk for the proponent, but the defendant now must assume the risk that the jury will accept it as proving breach. But, wait a minute. Why can't the defendant challenge it? The defendant can cross examine the witness, and the defendant can testify and deny making the statement (or ever meeting Heather). And why is the worst-case scenario that the jury will simply disregard the statement? Why isn't the worst-case scenario that the jury will hold the evidence against the proponent: "there must be some reason why they didn't call Heather" or "if this is all they can come up with, they must have a pretty lousy case." Elsewhere, Stein credits the jury with making quite sophisticated inferences about evidence. For example, he argues that defendants with prior convictions who chose to testify engage in "costly signaling" by allowing themselves to be impeached with those convictions—Stein argues that defendants are indicating to the jury that there are no case-specific reasons to disbelieve their self-exonerating testimony (if there were, it would combine with the prior convictions and be "devastating").[119] This helps innocent defendants because when they decide to testify the jurors think to themselves something like, "well, given his prior convictions, he's taking a big risk by coming up here and if there is no specific evidence contradicting his story then he must be innocent." If jurors can make these kinds of inferences, why can they not make equally sophisticated ones about weak hearsay?

Even assuming that this hearsay evidence is not case specific, it is also not clear why Stein argues that other hearsay *is* case specific. For example, the spontaneous-utterance exception is justified under Stein's framework because the opponent can often cross-examine the witness, who can testify about the events

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[115] See *supra* note 46.
[116] STEIN, *supra* note 1 at 229.
[117] *Id.* at 229-30.
[118] *Id.* at 229.
[119] *Id.* at 164-65. Stein defends the rule allowing the impeachment of defendants with their prior convictions on this ground, i.e., that it helps innocent defendants.

and the statement and perhaps offer additional information.[120] This will no doubt be true is some cases, but in others it will not. Suppose a phone message from someone describing an ongoing attack. This would also fall under the exception, but is testimony from a witness who received the call case specific enough? Is it sufficiently open to adverse utilization by the opponent of the evidence (to argue that contrary inferences should be drawn from it)? I have no idea how Stein would answer these questions. Or consider his defense of the business-record exception: "because information offered by such evidence is not generated selectively with a particular trial in mind, it can potentially benefit both parties to a civil litigation."[121] What does this have to do with case specificity? Can an opponent complain that they can't challenge it or utilize it to argue for contrary inferences? Does this rationale extend to all potential hearsay that is not generated with a particular trial in mind, even if it does not fall within a recognized exception? Again, I have no idea. We have three possibilities: either (1) the exceptions stand as is, in which case hearsay should be admitted even though it does not appear to meet PMI or case specificity; (2) the definition of "case specificity" is being gerrymandered in an ad hoc way beyond its original idea (and the concerns that motivated it); or (3) case specificity is a matter of degree that must be assessed on a case-by-case basis. This first two would be fatal to Stein's theory, so the third seems to be the most charitable reading. But now we have a serious problem. The motivation for PMI and case-specificity was to eliminate judicial and fact-finder discretion—if these requirements are a matter of degree and dependent on the particulars of each case, they will inevitably become discretionary judgments about when to admit or exclude evidence (and hence allocate the risk of errors). Likewise with fact-finders—if jurors have to make some judgments about the evidence in order to draw inferences from it, then *all* evidence fails to be "case specific."[122] In any event, there is no reason to think these discretionary judgments will be any fairer to the parties in allocating errors than those made under the current system (or that they will lead to greater error reduction).

The hearsay discussion generalizes to all evidence, and it also reveals a deeper problem regarding discretion and the role of the fact-finder. Suppose each side to a dispute presents evidential bases that fully comply with PMI and are fully case specific. Now what? Presumably the jury would assess the strength of

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[120] *Id.* at 232.
[121] *Id.* at 233.
[122] Jurors cannot be presented with every relevant detail about the evidence and the events, and thus judgment seems inevitable. And if jurors did not have to make such judgments, it is not clear what role, if any, they would be playing. For this reason, Stein's description of evidence as being "individualized" or not may be inaccurate; he appears to be talking about smaller and more detailed, as opposed to larger and less detailed, reference classes.

each side's evidence and decide (whether by making probability judgments or not) whether the party with the burden has satisfied it. Here, however, discretion will be unavoidable and will inevitably allocate the risk of error to one party or the other (the one they do not find for). Are these decisions also unjustified in terms of political morality? Do they need to be principled and regulated by the law of evidence? Or is discretion ok here—if so, why not when they are assessing any individual item of evidence? Or maybe discretion is a problem here as well. Perhaps Stein hints at this in suggesting that fact-finders ought to "articulate the reasons upon which their decision is intended to rest and juxtapose those reasons against the controlling standard."[123] But then the law would have to regulate every inference drawn from every item of evidence, evaluating which reasons are good ones and which ones are not. Evidence law would, in other words, completely eliminate fact-finders or make them superfluous (they could make decisions, but only those already sanctioned by a heavily regulated law of evidence). This approach would not only be impossible (think of what the rules would look like)—it would be unlikely to reduce errors or allocate them fairly, given the infinite combinations of evidence and their implications. In sum, it seems clear that PMI cannot eliminate the kinds of risk-allocation decisions that Stein intends it to eliminate.

B. Specific Considerations in Civil and Criminal Cases

Stein may agree that such discretion is unavoidable, but he may claim that at least securing adequate evidential bases ahead of time will lead to better decisions than not doing so. Again, "better" could mean more accurate or fairer in allocating the risk of error. Turning to the specifics of civil and criminal cases, however, even this argument appears to fail as well. In civil cases, the guiding principle is one of equality. For Stein, the equality principle requires that parties initially share the risk of error roughly equally and that neither side be allowed to shift a non-reciprocal risk to the other side by introducing non-case-specific evidence (that fails to satisfy PMI). In terms of risk allocation, however, it would also be treating parties equally to say that either side can introduce such evidence, either whenever they want or when it is the best evidence they have. If jurors can evaluate it adequately, then there is no reason to think they will allocate errors unfairly—if one side has poor evidence and the other side has good evidence, risk will be allocated to the side with poor evidence.[124] Increased admissibility of evidence may also lead to greater error reduction and to fairer allocation than under Stein's scheme. To see this, consider cases where both sides have only

[123] *Id.* at 38.

[124] And summary judgments or judgments as a matter of law could be employed to ensure that the risk is allocated this way.

non-case-specific evidence, but one side's evidence is better than the other's. Under Stein's scheme, both sides' evidence should be excluded and hence decisions always made against plaintiffs. Under the alternative, the jury finds for the party with the better evidence.[125] Because the allegations of the side with better evidence are, other things being equal, more likely to be true, the alternative will lead to more accurate results. Moreover, Stein's scheme would always allocate the risk of error to the plaintiff under such circumstances, while the alternative would more fairly allocate it to the side with worse evidence.

Criminal cases raise additional issues about Stein's approach. In his theory, error reduction and error allocation still matter in criminal cases, but error reduction ought to take place while maintaining society's accepted ratio of false acquittals to false convictions. Three related features of Stein's theory are particularly noteworthy in this context: (1) the asymmetric application of exclusionary rules; (2) the distinction between Risk I and Risk II errors, and (3) the articulated decision rule in criminal cases. All three aspects are motivated by PMI and the "equal best" standard. On the first aspect, Stein argues that prosecution evidence must meet the demands of PMI in order to be admissible, but the equal-best standard dictates that defendants should be free to introduce any relevant evidence they choose, if it is the best available evidence that they can produce. Now, the introduction of relevant evidence is likely to lead to a more accurate decision so long as its value is interpreted roughly accurately, but one can question whether this asymmetry in favor of defense evidence allocates the risk of error fairly. On one hand, it might give too much benefit to criminal defendants. If, as Larry Laudan has recently argued, the benefit of the doubt given to criminal defendants ought be located exclusively within the decision standard (proof beyond a reasonable doubt)—which ought to incorporate society's accepted value of errors it is willing to tolerate against innocent criminal defendants—then relaxing exclusionary rules asymmetrically may provide a type of "double counting" that further skew errors in favor of criminal defendants (thereby leading to too many false acquittals).[126] On the other hand, however, Stein's proposal may ring hollow for criminal defendants when it is combined with the other two features of his theory mentioned above. Specifically, the criminal standard is interpreted to eliminate "evidenced" errors (Risk I) not those that lack evidential confirmation (Risk II). To implement this requirement, jurors

[125] For an argument that jurors should infer which side has better evidence based on explanatory rather than probabilistic criteria see Pardo & Allen, *supra* note 104. The explanatory criteria concern the extent to which the best explanation of the evidence favors the plaintiff or the defendant.

[126] See LAUDAN, *supra* note 15 at 117-46. Laudan argues that once a standard is set that incorporates an acceptable level of false convictions, then the law of evidence ought to be concerned with improving accuracy and indifferent to further considerations of error allocation.

ought to convict whenever the prosecutor's evidence survives PMI (is case specific) and comes close to certainty, which is further interpreted to mean it eliminates all evidenced or "case specific" scenarios in which the defendant is innocent. Thus, even if criminal defendants are free to introduce non-case-specific evidence, it does not appear to play much of a role in the final decision—Stein's criminal standard would call for conviction in the face of such evidence (when the prosecutor satisfies PMI) because the criminal standard is not meant to protect against the "accidental" errors that may result from the non-case-specific scenarios defendants put forward (Risk II).[127]

Setting aside its relationship with the asymmetric admission of evidence, Stein's decision standard appears to be both too strong and too weak to accord with our intuitions regarding proof beyond a reasonable doubt. It is too weak because we can imagine situations in which Stein would convict, but the defendant has not been proven guilty beyond a reasonable doubt—for example, whenever a defendant has good exculpatory evidence that is non-case-specific evidence.[128] By contrast, we can imagine a defendant who ought to be convicted despite the fact that he can put forward some poor but case-specific exculpatory evidence. For example, a defendant's own self-serving testimony on the witness stand (say, about witnessing someone else commit the crime) is surely case-specific (if anything is), but Stein would refrain from convicting unless the prosecution can refute this story, no matter what other inculpatory evidence is presented. Stein may respond that the strong inculpatory evidence by the prosecution would itself refute the defendant's testimony, but this would merely acknowledge that the prosecution may prove its case without eliminating the possibility of case-specific scenarios put forward by the defense.

A better example is *United States v. Veysey*.[129] The defendant was convicted of arson, among other crimes, and the evidence against him consisted of

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[127] Why it is morally acceptable to not worry about Risk II risks (to simply consider these defendants "unlucky") is never really explained. The issue does, however, further show how moral and epistemic issues are intertwined—under Stein's theory, innocent defendants who find themselves in an unlucky epistemic situation apparently lose their moral claim not be wrongfully convicted.

[128] Assume also that the evidence is not weighty or resilient enough to satisfy whatever specificity requirements would make it a "Risk I" risk. The relationship between case-specificity and Stein's criminal standard is not entirely clear, however. For example, he writes that for a conviction to be warranted the prosecution must eliminate "all evidenced and case-specific scenarios . . . in which the defendant is innocent." STEIN, *supra* note 1 at 178. If the prosecution must refute every case-specific scenario a defendant can offer, then the standard appears to be too strong. It appears to require an acquittal any time a defendant's testimony could not be directly refuted (assuming the testimony is "case specific"), no matter how strong the evidence against the defendant. If a defendant testifies that he heard someone from Utah was the real culprit, the prosecution should not have to rule out every Utah citizen in order to convict the defendant.

[129] 334 F.3d 600 (7th Cir. 2003).

testimony from an actuary about the probability of someone having as many accidental fires as the defendant experienced. Stein, incredibly to this reviewer, suggests that Veysey ought not have been convicted unless the prosecution "refut[ed] defendant's alibis or other innocent explanations for the fires."[130] According to the appellate court, however, the other evidence presented in addition to the actuary's testimony was "overwhelming."[131] The other evidence presented was sufficient that a reasonable jury could infer the following facts, summarized by the appellate court:

> In 1991 Veysey set fire to his house and inflated the claim that he then filed with his insurer. The insurer paid, and the house was rebuilt. The following year Veysey married a woman named Kemp, increased the insurance on the house, removed the valuable contents of the house, along with himself and his wife, and then cut the natural-gas line inside the house, causing the house to fill up with gas and explode spectacularly, utterly destroying it. He grossly exaggerated the value of the property allegedly lost in the explosion-some did not exist and some he had removed before the explosion. The insurance company (a different one) paid, and he used part of the proceeds to buy another house. The next year he tried to kill his wife by driving his van with her in it into a river. When that failed he killed her by poisoning her, and collected $200,000 in the proceeds of insurance policies on her life. He placed personal ads in newspapers, seeking to meet women. He became engaged to one of the women he met through his ads, named Donner, but broke his engagement after failing to procure a $1 million policy on her life. He then took up with a Ms. Beetle. This was in 1996 and the same year he burned down his house, again submitting an inflated estimate of the loss and receiving substantial proceeds from the insurance company (a different one, again). He then married Beetle, and they moved into a rented house. She insured her life for $500,000 with him as beneficiary. One night in 1998, after drugging her, he set fire to the house, hoping to kill both her and their infant son, on whom he had also taken out a life insurance policy and who was in the house with her. They were rescued, and soon afterwards Veysey and Beetle divorced. The house was rebuilt and Veysey persuaded a woman named Hilkin to move in with him after she had accumulated some

[130] STEIN, *supra* note 1 at 207. This would allow for "full individualized testing by the defendant." *Id.*
[131] 334 F.3d at 606.

> $700,000 in life insurance and named him as the primary beneficiary. He apparently intended to murder her, but he was arrested before his plans matured.[132]

If Stein's standard requires that Veysey ought to have been acquitted unless the prosecution could directly refute every alibi he offered for the various occasions and every alternative explanation he offered, then this case supplies a *reductio ad absurdum* for the standard. Alternatively, if the other inculpatory evidence is sufficient to convict Veysey, then the prosecution has adequately proven its case without eliminating every case-specific scenario put forward by the defense.

Stein may reply that the inculpatory evidence in the above examples does in fact eliminate the defendants' case-specific scenarios. But if this is true, then this is a possibility in every case and it is hard to see what work the concept of case specificity and Stein's proposed decision standard are doing. Parties always put forward relevant evidence supporting their cases in hopes that the jury will give less credence to the other sides' narratives of what occurred. This seems to eliminate, or at least blur even further, the case-specific/ non-case-specific distinction. To be clear, all that the above examples show is that Stein's standard appears to deviate from the status quo. It is, of course, possible that Stein's standard does in fact reduce errors or better capture an appropriate ratio of errors over the status quo, but he provides no arguments for that conclusion.

VI. Conclusion

Whether one agrees or disagrees with its specific conclusions, *Foundations of Evidence Law* is a significant book. Through a few organizing principles it seeks to unify the law of evidence and then to justify that law in terms of political morality. It offers unique and powerful arguments regarding virtually every important evidentiary issue, and it pushes the debates regarding these issues forward. At the most abstract level, it situates the law of evidence within a larger jurisprudential context and brings together several diverse areas of scholarship to inform the law of evidence. In its use of probability theory, it also attempts to chart a middle way between the dominant positions in evidence scholarship regarding the proof process: the Bayesians (Pascalians), on one hand, and the rejection of Bayesianism by Baconians and probability skeptics, on the other. And it brings all of these abstract issues down to the concrete doctrinal level with detailed proposals regarding every major category of evidence rules, sometimes challenging existing doctrine and sometimes offering new rationales for existing rules.

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[132] 334 F.3d at 601.

This review began by comparing Stein with Dworkin. Dworkin's jurisprudential views have become major theoretical landmarks by which others steer, either toward or away from. Stein's normative arguments, in illuminating the theoretical issues in the law of evidence, may provide a similar landmark. In critiquing the framework, I have suggested that the morally justified evidence law that Stein and we seek lies a bit further out, in deeper epistemic waters.