This Article revisits and refines the organizing principles of evidence law: case specificity, cost minimization, and equal best. These three principles explain and justify all admissibility and sufficiency requirements of the law of evidence. The case-specificity principle requires that factfinders base their decisions on the relative plausibility of the stories describing the parties' entitlement–accountability relationship. The cost-minimization principle demands that factfinders minimize the cost of errors and the cost of avoiding errors as a total sum. The equal-best principle mandates that factfinders afford every person the maximal feasible protection against risk of error while equalizing that protection across the board.

This Article connects these principles to the irreducibly second-personal structure of legal doctrine (that tracks Stephen Darwall's celebrated account of morally justified claims). Under this structure, the plaintiff’s (or the prosecutor’s) authority to extract compensation from (or impose punishment on) the defendant critically depends on the trustworthiness of the individual.

† Professor of Law, Cardozo Law School. I thank Ron Allen, Hanoch Dagan, Greg Keating, Gideon Parchomovsky, Mike Pardo, Ted Ruger, Ben Zipursky, and participants at the Penn Law School Symposium on New Doctrinalism and the Northwestern University School of Law conference on the Foundations of Evidence Law for excellent comments and suggestions.
infringement allegations that make the defendant accountable to the plaintiff (or the prosecutor). Evidentiary rules fit into this second-personal framework only when they promote case specificity, cost minimization, or equal best. Reform proposals that favor different rules are fatally disconnected from that framework and are therefore ill-conceived.

Based on this observation, I criticize three powerful accounts of evidence law that rely, respectively, on economics, probability theory, and morality. These accounts include Louis Kaplow's theory of the burden of proof, Daniel Kahneman and Amos Tversky's claim that factfinders' deviations from mathematical probability are irrational, and Ronald Dworkin's distinction between accidentally and deliberately imposed risks of error. These accounts break away from our second-personal system of entitlements and liabilities; by doing so, they create a methodologically impermissible disconnect between rules of evidence and substantive laws.

INTRODUCTION

Throughout the twentieth century, the realist theories of law came to occupy a dominant position in contemporary jurisprudence. Those theories are diverse. Yet, all of them coalesce around a robust proposition that denies the existence of distinctly legal reasoning. According to those theories, reasoning that takes place in courts of law is not "legal" in any distinctive sense. Rather, it consists of moral, political, economic, epistemic, and psychological claims. These claims are pursued by litigants and subsequently validated or rejected by courts. Formally, they allude to applicable legal rules and the underlying facts, but the actual meaning of those rules and facts is determined by reasons that are external to the law. The reasons that actually determine what the applicable rules say and what the underlying facts are come from morality, politics, economics, epistemology, and
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They use legal vocabulary but do not derive from the law. Consequently, so goes the argument, law cannot be considered a self-contained practice and autonomous discipline. As some uncompromising Realists and critical legal scholars put it, “law is an empty vessel.”

In the pages ahead, I set forth and explain my profound disagreement with this argument. Realists correctly perceive law as a combined product of moral, political, economic, epistemic, and other societally relevant ideas. These ideas are vital for all forms of social organization, including law. Prior to going into law, however, these ideas undergo selection, adjustment, and integration by the lawmaker: the legislature or a superior common law court. The lawmaker uses these ideas to formulate its goals and to devise rules that realize those goals. As part of that process, it adopts certain ideas while leaving other ideas out. The lawmaker then integrates the selected ideas and writes them into rules that regulate primary activities, adjudication, and courts’ decisions.

This process of selection, adjustment, and integration is guided by the lawmaker’s reasons. These reasons are distinctively “legal” because they perform a critical organizing role in determining the contents of the legal system. They select the moral, economic, epistemic, and other socially relevant ideas that go into the law and translate them into rules. In what follows, I identify these reasons as “organizing principles.”

Organizing principles lie at the heart of the “New Doctrinalism”— theorizing about the actual practice of the law, which is predominantly doctrinal. Full explication of these principles’ characteristics requires an extensive philosophical investigation, which I cannot carry out in this Article. The conveners of this Symposium asked me to explore the relationship between the New Doctrinalism and the law of evidence, and I now begin this exploration.

This Article proceeds in the following order. In Part I, I outline the organizing principles of evidence law, explain their connection to specific evidentiary rules and substantive law, and identify the constraints they impose on normative theories of evidence. In Parts II, III, and IV, I criticize economic, probabilistic, and moral theories of evidence that proceed in

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1 Andrew Altman, Critical Legal Studies: A Liberal Critique 90 (1990) (noting that some critical legal scholars perceive legal rules as “empty vessels’ into which individuals can pour virtually any content they please”).
3 Id. at 225-30 (explaining why plans underlying lawmaker’s rules are distinctly “legal”).
4 Id. at 231-33.
isolation from those principles and ignore the constraints they impose. A short Conclusion follows.

I. ORGANIZING PRINCIPLES OF THE LAW OF EVIDENCE

In the paragraphs ahead, I identify three organizing principles of evidence law.6 These principles originate from epistemology, economics, and morality. The first and most fundamental of the three is epistemic: it requires that courts decide cases on the basis of case-specific evidence, as opposed to generalizations and statistical distributions.7 The second principle is economic: it requires that court procedures and decisions minimize, simultaneously, the cost of error in factfinding and the cost of avoiding that error.8 The third principle is moral: it requires that courts afford every person the maximal feasible protection against adjudicative error and that this protection be equal for all parties in civil trials and across all criminal defendants (“equal best”).9

These principles explain and justify the existing allocation of the burdens of proof, admissibility rules, and corroboration requirements. All evidentiary rules, except privileges, are geared toward accomplishing case specificity, cost minimization, and equal best.10 My book, Foundations of Evidence Law, unfolds this interpretive claim.11 In this Article, I focus on the principles themselves while trying to refine and further develop my earlier account. Specifically, I explain how these principles integrate with substantive entitlements and liabilities and how they limit normative claims with respect to the law of evidence.

The facts underlying legal disputes are inherently uncertain and courts consequently never know exactly what they are.12 Therefore, instead of trying to find the actual facts, courts determine what these facts are likely to be under conditions of uncertainty.13 The rules, known as the law of evidence, help courts make these determinations. These rules categorize

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6 This discussion refines and further develops the ideas presented in my book, ALEX STEIN, FOUNDATIONS OF EVIDENCE LAW (2005) [hereinafter FOUNDATIONS].
7 See id. at 91-106 (identifying the maximal individualization requirement).
8 See id. at 141-43 (specifying the cost-efficiency requirement).
9 See id. at 172-78, 214-25 (identifying the “equal best” requirement for factfinding in criminal and civil cases).
10 Id. at 91-106, 143-67, 178-208, 225-44.
11 Id. at ix-xiii, 133-40.
12 Id. at 34-36.
13 Id.
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Evidence as admissible or inadmissible. They also require corroboration for certain types of evidence and determine the burdens and standards of proof for factual findings. By doing all that, evidentiary rules allocate the risk of error—and the ensuing prospect of wrongful punishment, dispossession, deprivation, or denial of remedy—to one party or another.

Allocation of error brings probability theory, economics, and moral philosophy into play. Arguably, evidence doctrine must ensure that courts’ decisions are aligned with the canons of probability and satisfy the demands of both fairness and welfare maximization. Evidence doctrine, however, steers away from probabilistic calculus and direct welfare maximization; it is also far removed from the fairness ideas recommended by moral philosophers. For these reasons, it has been criticized for being economically ignorant, probabilistically irrational, and morally deficient. These critiques come exclusively from academic corners and they do not sit well with the actual practice of the law. Attorneys and judges do not perceive evidence doctrine as wicked or misguided.

14 See George Fisher, Evidence 1 (3d ed. 2013) (“Evidence law is about the limits we place on the information juries hear.”).
15 See Alex Stein, Inefficient Evidence, 66 ALA. L. REV. 423, 443 & n.84 (2015).
16 Foundations, supra note 6, at 133-38.
17 For a discussion of this claim, see William Twining & Alex Stein, Evidence and Proof, at xxi-xxiv (William L. Twining & Alex Stein eds., 1992).
20 Allen & Stein, supra note 19, at 588-93.
21 See infra Part II.
22 See infra Part III.
23 See infra Part IV.
24 See, e.g., Sidney A. Fitzwater, Opening Remarks, The Restyled Federal Rules of Evidence, 53 WM. & MARY L. REV. 1437, 1442 (2012) (“Rule 102 captures the purpose of the Federal Rules of Evidence: ‘These rules should be construed so as to administer every proceeding fairly, eliminate unjustifiable expense and delay, and promote the development of evidence law, to the end of ascertaining the truth and securing a just determination.’ This Symposium is intended to celebrate the restyled Evidence Rules, which will enhance this lofty and salutary purpose.”).
I posit that the practitioners’ intuition is correct. Evidence doctrine does not ignore probability, economics, and moral theory. Yet, it also does not allow any of these disciplines to take over. Evidence doctrine is informed by a preselected, adapted, and integrated set of probabilistic, economic, and moral ideas, identified here as organizing principles. These principles are formulated and continually refined by common law courts as they go from case to case. They have a common goal: implementing people’s substantive entitlements and liabilities as fairly and as efficiently as possible. The organizing principles of evidence law thus fit themselves into the conceptual and operational framework of substantive entitlements and liabilities.

This framework is decidedly second-personal: it conditions the grant of legal remedies and the imposition of penalties on the presence of authority, on one side, and accountability, on the other side. This framework authorizes a rightholder to impose punishment on or obtain compensation from a person who transgressed her entitlement. The plaintiff’s authority and the defendant’s parallel accountability thus depend on the correctness of the plaintiff’s infringement allegation against the defendant. For example, in order to succeed in a tort suit, a plaintiff must establish that the defendant carelessly caused her injury. The plaintiff consequently must adduce evidence identifying her injury, the defendant’s careless action, and the causal connection between the two. If convincing, this evidence would establish the plaintiff’s legal authority over the defendant and make the defendant accountable to the plaintiff for the amount stipulated by the law. The defendant, for his part, may present evidence disassociating his actions from the plaintiff’s injury or showing that those actions were careful enough. If convincing, this evidence would make the defendant unaccountable and the plaintiff would then be denied the authority to extract compensation from the defendant.

This second-personal framework defines the nature of factfinding in the courts of law. Adjudicative factfinding focuses exclusively on the parties’ authority–accountability relationship and on the story underlying that specific relationship. For that reason, it assumes the form of a contest

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26 See STEPHEN DARWALL, MORALITY, AUTHORITY, AND LAW: ESSAYS IN SECOND-PERSONAL ETHICS I 135-39 (2013) (explaining this framework as the difference between an agent-neutral, or state-of-the-world-regarding, reason for acting and an agent-relative relationship in which there is authority to demand action second-personally).
between the plaintiff’s (or the prosecutor’s) and the defendant’s stories. Courts resolve those contests by applying the relative plausibility criterion, also called “inference to the best explanation.” Specifically, they determine which of the parties’ conflicting stories make the most sense in terms of coherence, consilience, causality, and evidential support. The story that scores the highest along these dimensions forms the factual base for ascribing liabilities and entitlements and for awarding remedies.

Second-personal factfinding is case specific by design: it requires evidence that reveals the specifics of the parties’ relationship. Without knowing these specifics, courts would not be able to determine whether the plaintiff has a valid authoritative demand that makes the defendant accountable to her. Courts consequently cannot rely on statistical evidence as their primary information. Because statistical distributions tell nothing about the plaintiff’s authority over the defendant and the defendant’s accountability to the plaintiff, they are second-personally irrelevant. Factfinders, for example, cannot base a murder conviction upon evidence showing that the defendant was one of 1000 prisoners, of whom 999 participated in a riot that killed prison guards. Statistical distributions, however, can still play a role as secondary information that helps courts evaluate case-specific evidence. For example, in evaluating case-specific testimony of an eyewitness, courts may take into account psychological studies identifying the general rate of eyewitness error.

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27 See Ronald J. Allen, Factual Ambiguity and a Theory of Evidence, 88 NW. U. L. REV. 604, 612-14 (1994) (analyzing the proper “allocation of ambiguity” between the plaintiff’s and defendant’s stories that should be applied by a factfinder); Michael S. Pardo & Ronald J. Allen, Juridical Proof and the Best Explanation, 27 LAW & PHIL. 223, 229-31 (2008) (arguing that the decisionmaking “process occurs in two steps: generating potential explanations of the evidence and then selecting the best explanation from the list of potential ones”).

28 Allen & Stein, supra note 19, at 567-71.

29 Id. at 579.

30 See id. (finding that these dimensions “trump frequentist probability in any individual case”).

31 This example is borrowed from Charles R. Nesson, Reasonable Doubt and Permissive Inferences: The Value of Complexity, 92 HARV. L. REV. 1187, 1192-93 (1979).


33 See, e.g., Smith v. State, 880 A.2d 288, 294-98 (Md. 2005) (invoking statistical incidence of errors in cross-racial identifications as a reason for quashing conviction of defendants that were prevented by the trial judge from drawing jurors’ attention to potential unreliability of white witnesses identifying black suspects as perpetrators). As Ronald Allen and I have observed, courts also rely on naked statistical evidence in special cases that involve (inter alia) “market-share liability for defective products, doctors’ liability for patients’ lost chances to recover from illness, employers’ liability for discriminating against classes of employees, trademark infringers’ liability
Consider the proverbial Blue Bus company that operates 80% of the buses in town and that has a competitor, Green Bus, that operates the remaining 20%. A person is injured by an unidentified bus in a hit-and-run accident that had no witnesses. Under such circumstances, the victim cannot validly claim that her probability of having been hit by a blue bus was 80%. Although statistically correct, this claim is not valid from a second-personal standpoint; all it can show is a distribution of multiple victims randomly hit by blue and green buses. The victim has no concrete account of the event in which she, as opposed to another victim, was wronged by a blue, as opposed to a green, bus. The victim consequently fails to establish her authority over the Blue Bus company. Nor can she prove that Blue Bus is accountable to her, as opposed to another victim.

The second-personal design of evidence doctrine also accounts for the doctrine’s economics. The doctrine confines factfinders’ inquiries to the specifics of the parties’ relationship. Due to this confinement, aptly...
identified by Lon Fuller as monocentricity, courts are neither able nor authorized to make decisions that promote global welfare-maximization. All they can do is increase their chances of making an accurate decision in the case at bar at a socially affordable cost. In tune with that goal, the doctrine strives to make the factfinding system internally cost efficient. To that end, it sets up rules that minimize the cost of factfinding errors and the cost of avoiding those errors as a total sum. These rules take into account the risk of error and the value of what a party stands to lose in the event of an error. The greater the expected loss, the higher the level of protection against error that the party will receive under these rules. Whether this inner efficiency also improves social welfare is a separate macroeconomic question that the doctrine does not address.

The doctrine’s commitment to case specificity and cost minimization also defines the extent to which it can implement moral principles. For example, the doctrine cannot implement the Kantian principle of desert while satisfying its case-specificity and cost-minimization goals. Consider again the prisoners’ riot case that calls for an acquittal of all 1000 prisoners due to the absence of evidence identifying the crime’s perpetrators individually. This acquittal violates the desert principle because it purposefully allows 999 murderers to go unpunished. To avoid this violation, the court could convict all 1000 prisoners, including the innocent inmate. Alas, this verdict would also violate the desert principle (along with Kant’s “categorical imperative”) because it deliberately inflicts punishment on an innocent person.

Evidence doctrine therefore has no choice but to limit its moral ambition. Fairness and morality are important, but case specificity and cost minimization are important as well. The doctrine consequently can promote fairness only within the given framework of the law. As I already explained, this framework requires courts to make case-specific decisions that minimize the total cost of error and error avoidance. Under these constraints, the

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36 See Lon Fuller, Adjudication and the Rule of Law, 54 AM. SOC’Y INT’L L. PROC. 1, 3-7 (1960) (distinguishing between monocentric and “polycentric” adjudication).
37 Id. at 443-44.
38 Id. at 428-29, 442.
39 Id. at 429-30.
40 Id.
41 See Don E. Scheid, Kant’s Retributivism, 93 ETHICS 262, 274 (1983) (“To treat an individual with the respect due him as a human being is to treat him according to his deserts . . . .”).
42 See IMMANUEL KANT, FOUNDATIONS OF THE METAPHYSICS OF MORALS 39 (Lewis White Beck trans., Bobbs-Merrill Co. 1959) (“Act only according to that maxim by which you can at the same time will that it should become a universal law.”).
43 FOUNDATIONS, supra note 6, at 91-106, 141-43.
only moral virtue that the doctrine can plausibly promote is “equal best.”44
All it can do is afford every person the maximal feasible protection against
risk of error while equalizing that protection across the board.45

These three principles explain and justify all evidentiary rules that
regulate factfinding in courts46 (except privileges that suppress evidence for
purposes unrelated to factfinding)47. The common law rule that prohibits
courts from basing their decisions on naked statistical evidence realizes the
case-specificity principle.48 The rule suppressing evidence of a person's
character or propensity does the same (since character and propensity
evidence is nakedly statistical).49 Burdens of proof, civil and criminal,
implement the cost-minimization principle within the framework of equal
best.50 Evidentiary presumptions try to achieve the same goal through
adjustment of the general proof burdens.51 The rule against hearsay
minimizes the cost of error-avoidance while also implementing the
equal-best requirement.52 It does so by systematically suppressing one-
sided and untestable out-of-court statements that give their proponents an
unfair advantage in the allocation of the risk of error. Rules determining the
admissibility of expert evidence (both Frye53 and Daubert54) pursue cost
minimization (albeit, with varying success).

This understanding of the law of evidence has a number of implications
for policy and scholarship. First and most important, evidentiary rules and
substantive laws are integrated and codependent. The case-specificity
requirement set up by our rules of evidence preserves the second-personal
nature of substantive entitlements and liabilities. Evidentiary rules that
work to achieve cost-minimization facilitate accurate, but cost-conscious,

44 Id. at 172-78, 214-25.
45 Id.
46 Id. at 138-40.
47 Because privileges protect substantive confidentiality entitlements, they are properly
categorized as belonging to substantive law rather than the law of evidence. See John Hart Ely,
The Irrepressible Myth of Erie, 87 HARV. L. REV. 693, 724-27 (1974) (attesting that immunities,
which would include evidentiary privileges, belong to substantive law); Jack B. Weinstein,
The Uniformity-Conformity Dilemma Facing Draftsmen of Federal Rules of Evidence, 69 COLUM. L. REV.
48 See FOUNDATIONS, supra note 6, at 204-07, 238-40 (discussing the law's preemption of
decisions based on naked statistical evidence).
49 Id. at 183-89.
50 Id. at 143-53.
51 See id. at 222-23 (discussing the role of the burden of proof in the equal-best framework).
52 Id. at 189-96; see also Stein, supra note 15, at 444-50 (discussing the risks addressed by the
hearsay rule).
53 Frye v. United States, 293 F. 1013 (D.C. Cir. 1923).
ascertainment of substantive liabilities and entitlements. Finally, rules of evidence that form the equal-best principle make sure that courts do not assign substantive liabilities and entitlements arbitrarily or through bias.

The three principles of the law of evidence also impose limits on the claims that scholars can plausibly make about evidentiary rules. As far as normative theory is concerned, scholars may call for a revision and replacement of evidentiary rules that do not function properly in promoting case specificity, cost minimization, or equal best. From a descriptive standpoint, scholars may consider whether any of the three principles requires reformulation and refinement to produce a more accurate account of the law of evidence. Scholarly endeavors that go along these paths perceive legal doctrine as a system of interconnected evidentiary, procedural, and substantive rules that define people’s entitlements and liabilities. This integrated understanding of the law represents the “New Doctrinalism.”

What scholars cannot plausibly do is promote an evidentiary reform that parts company with the three principles of the law of evidence. Any such reform will bring about distortions in the legal system. Abolition of the rules associated with the case-specificity principle would unravel the second-personal structure of the substantive entitlements and liabilities. Repealing the rules that promote cost minimization is bound to create discrepancies between the courts’ factfinding efforts and the value of the underlying substantive entitlements and liabilities. Doing away with the equal-best principle would allow courts to use whim and bias in allocating the risk of error between the parties.

My methodological injunction does not ban wholesale reform proposals that purport to remodel our entire legal system together with the three evidentiary principles. More often than not, such proposals are unrealistic and overambitious, but they can be normatively plausible, and I am not criticizing them in this Article. I argue against theories of evidence that make no attempt to understand our legal system from the perspective of an informed insider who sees the connections between the system’s different rules and what those rules collectively aim to achieve. These theories anomalously purport to remodel our system of evidence while holding the substantive law constant. In what follows, I call this wrong-headed methodology “antidoctrinalism.” In Parts II, III, and IV below, I demonstrate how antidoctrinalism plagues a number of economic, probabilistic, and moral theories of evidence that otherwise appear attractive.
II. ECONOMIC ANTIDOCTRINALISM

The most recent and by far most salient example of economic antidotalism in the area of evidence is Louis Kaplow’s ambitious proposal to redesign the burden of proof. Kaplow argues that the burden of proof doctrine is fundamentally flawed in that it has “almost nothing to do with what matters for society.” Probability thresholds set by this doctrine—“preponderance,” “clear and convincing,” and “beyond a reasonable doubt”—represent different levels of accuracy for factual findings. For civil actions, preponderance of the evidence will suffice. For findings that lead to a deprivation of the defendant’s civil right, the law normally requires clear and convincing evidence. Criminal prosecutors will only obtain conviction when the defendant’s guilt is proven beyond a reasonable doubt. According to Kaplow, this pursuit of “accuracy ex post” is futile because it has no effect upon actors’ primary behavior. Based on this observation, Kaplow calls on lawmakers to do away with accuracy ex post. He recommends that lawmakers replace the burden of proof doctrine with factfinding mechanisms that incentivize socially desirable conduct.

To operationalize this idea, Kaplow develops a novel legal mechanism that uses “evidence thresholds.” Evidence that goes into Kaplow’s thresholds integrates information about the systemic effects of the relevant primary activity: harmful, socially useful, and benign. This evidence associates different activities with different concentrations of harm and benefit. Some of those concentrations yield a socially negative tradeoff, others do not. Based on this evidence, the legal system should penalize activities associated with the undesirable concentrations of harm versus benefit. Probabilities upon which actors will receive those penalties will vary as well. When the harm in the mix predominates, the system will decrease the probability upon which courts can find a person responsible for

55 See generally Kaplow, supra note 18.
56 Id. at 789.
57 Id. at 742-44.
58 FOUNDATIONS, supra note 6, at 221-23.
59 Id. at 152-53 (“C]laims and contentions that require proof by clear and convincing evidence include allegations of fraud and deprivations of civil liberties.”).
60 Id. at 148-51.
61 See Kaplow, supra note 18, at 784-89 (arguing that his proposed proof system is more finely tuned to social welfare because of its emphasis on factor analysis as opposed to ex post accuracy).
62 Id.
63 Id. at 756-62.
64 Id. at 757.
65 Id.
the underlying misconduct and the ensuing harm. Conversely, as the harm in the mix subsides, the probability that courts will require for finding the actor liable will get higher. Kaplow argues that these multiple rules outperform the conventional burden of proof doctrine at promoting social utility.

From a purely economic standpoint, Kaplow’s model is normatively appealing (subject to the cost problem that he addresses, but does not completely resolve). The economic standpoint, however, is too abstract. It pays no regard to the structure and substance of our legal system. First and most importantly, Kaplow ignores the second-personal nature of legal entitlements and liabilities. Under his model, instead of relying on the authority–accountability relationship between individual plaintiffs and defendants, courts determine people’s liabilities and entitlements on the basis of general social facts. These social facts are statistical distributions unrelated to the parties’ concrete behavior. Decisions that courts would make under Kaplow’s model would consequently violate the case-specificity principle.

This model also violates the equal-best principle. It does so by systematically discriminating against defendants whose activities fall into the socially disfavored concentrations of benefit versus harm. Under Kaplow’s model, the level of protection against error that a person receives does not depend on whether she is a civil or criminal defendant and on the value of the entitlement that she might undeservedly lose in court. Instead, it depends on how good or bad the social consequences of a person’s actions are in a statistical sense.

Kaplow’s model is also completely unrelated to the conventional principle of cost minimization. This model incorporates a new mechanism of entitlements and liabilities that tracks statistical concentrations of harms versus benefits. This mechanism tries to accomplish a whole lot more than reconfigure the burden-of-proof doctrine. Implementing it would redesign our entire legal system. Presently, whether an actor is liable or not depends on whether his conduct aligns with the requisite legal rule or standard. This factual question, in turn, depends on whether the misconduct allegation against the actor is sufficiently probable. When the allegation is criminal, its

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66 Id.
67 Id.
68 Id. at 782-86.
69 See Allen & Stein, supra note 19, at 563-65, 580-83 (critiquing Kaplow’s theory on a number of bases, including its enormous informational costs).
70 Kaplow, supra note 18, at 756-61 (explaining the “evidence thresholds” framework).
probability must be high enough to eliminate “all reasonable doubt.”71 And when the alleged misconduct is civil, as in tort or contract cases, it must be “more probable than not”72 (and in some special cases it must be verified by “clear and convincing evidence”)73. This conventional system minimizes the cost of adjudicative errors and the cost of accuracy as a total sum.74

Under Kaplow’s system, on the other hand, whether an actor should be liable or not depends on the statistical zone into which her conduct falls. Each statistical zone represents a discrete concentration of harms and benefits: positive (when the benefits are greater than the harms), negative (when the harms are greater than the benefits), or neutral (when the harms and the benefits are equal).75 When the zone into which the actor’s conduct falls is neutral, evidence that her specific conduct was harmful must show preponderance. Harm originating from the actor’s conduct must consequently be more probable than not.76 When the zone is positive, the requisite evidence must achieve a high degree of probability: somewhere between clear and convincing and beyond a reasonable doubt.77 And when the zone is negative, the requisite evidence needs to show probability below these levels and, in appropriate cases, even below preponderance.78 This Bayesian insight79 reveals the enormous cost that society incurs by requiring prosecutors to prove criminal accusations beyond a reasonable doubt.80 According to Kaplow, the “beyond reasonable doubt standard” is inimical to social welfare.81 He is not the first to make that accusation.82

71 FOUNDATIONS, supra note 6, at 148-51, 178-83.
72 Id. at 124-33.
73 Id. at 152-53.
74 Id. at 141-43.
75 Kaplow, supra note 18, at 756-62.
76 Id. at 763-68.
77 Id.
78 Id.
79 See Allen & Stein, supra note 19, at 584-88 (explaining and criticizing the Bayesian rationale of Kaplow’s “evidence thresholds” system); see also Louis Kaplow, Likelihood Ratio Tests and Legal Decision Rules, 16 AM. LAW & ECON. REV. 1 (2014) (explaining Bayesian foundations of proposed method for making legal decisions).
80 Kaplow, supra note 18, at 744 (“[S]tricter proof burdens can, in plausible settings, increase rather than decrease the number of false convictions, and the presence of higher social costs of sanctions likewise has ambiguous implications regarding whether the proof burden should be higher or lower.”); see also id. at 790-91.
81 Id. at 744, 790-91.
Kaplow’s system therefore represents an entirely new, welfare-driven, substantive law. Unlike the conventional doctrine that focuses upon evidence and how to use it in order to minimize the overall cost of adjudicative error and error avoidance, this system fits itself into a big picture of social welfare, which it tries to maximize directly.® This direct approach to welfare maximization eliminates the doctrinal structures that try to improve social welfare indirectly through the familiar mechanisms of rights, duties, liabilities, and burdens of proof. Implementing it would substitute our legal system with a different one.

Kaplow’s suggestion that our system is actually broken and needs to be fixed is doubtful. Kaplow complains that the system ignores concentrations of harm versus benefit and their importance. My view of the system is more charitable. As Ronald Allen and I have shown in a recent work, concentrations of harm versus benefit animate our system’s substantive rules of civil and criminal liability.® Kaplow criticizes the burden of proof doctrine for being oblivious to these concentrations and their implications for social welfare, but this critique pays no regard to the substantive rules of tort, contract, and criminal liability that the doctrine was set up to implement. Our burden of proof rules operate in tandem with the substantive rules of liability. They do so by setting up the probability thresholds that courts use in ascertaining the presence of characteristics that make a person’s conduct prohibited (and hence socially undesirable) or permitted (and hence socially desirable or neutral). Those thresholds determine the level of enforcement for liability rules and where the risk of erroneous enforcement should fall.® Kaplow pays no attention to this synergy. He analyzes the burden of proof doctrine as a freestanding set of rules and, unsurprisingly, produces a descriptively distorted account of the doctrine.

® See Allen & Stein, supra note 19, at 588-93 (juxtaposing Kaplow’s direct approach to welfare maximization against the indirect approach taken by positive law).
® Id.
® These rules still have certain undesirable effects on actors’ primary behavior. See generally Gideon Parchomovsky & Alex Stein, The Distortionary Effect of Evidence on Primary Behavior, 124 HARV. L. REV. 518 (2010) (demonstrating that evidentiary motivations lead actors to engage in “socially suboptimal behavior when doing so is likely to increase their chances of prevailing in court”).
III. PROBABILISTIC ANTIDOCTRINALISM

Daniel Kahneman and Amos Tversky are renowned psychologists and behavioral economists, who claim to have uncovered systematic flaws in people's evaluations of probability. One of their most famous claims criticizes the factfinding method followed by our courts of law. This claim originates from the robust experiment known as “Blue Cab.”

Kahneman, Tversky, and their collaborators told factfinders about a hit-and-run accident that occurred at night in a city in which 85% of cabs were blue and 15% were green. They also told the factfinders that the hit-and-run victim filed a lawsuit against the companies operating those cabs—identified respectively as “Blue Cab” and “Green Cab”—and that an eyewitness testified in the ensuing trial that the cab that hit the victim was green. Another piece of information that the factfinders received concerned a rather unusual procedure that took place at this trial. The experimenters told the participants that “[the judge] tested the witness’ ability to distinguish between Blue and Green cabs under nighttime visibility conditions [and] found that the witness was able to identify each color correctly about 80% of the time but confused it with the other color about 20% of the time.” Based on this information, factfinders estimated that the probability that a green cab hit the victim was 0.8. Remarkably, this assessment squarely aligns with the preponderance of the evidence requirement for civil suits.

Under Bayes’ Theorem, however, things are markedly different. The prior odds that the responsible cab was green as opposed to blue, \( P(G)/P(B) \), equaled 0.15/0.85. To calculate the posterior odds, \( P(G|W)/P(B|W) \), with \( W \) denoting the credibility of the witness, these odds had to be multiplied by the likelihood ratio. This ratio is equal to the odds attaching to the scenario in which the witness identified the cab's color correctly, rather than incorrectly: \( P(W|G)/P(W|B) \). The posterior odds consequently equaled \( (0.15 \times 0.8)/(0.85 \times 0.2) \)—that is, 12/17. The probability that the victim's allegation against the Green Cab is true thus amounted to 12/(17 + 12) or 0.41—far below the “preponderance of the evidence” requirement for civil suits.


87 KAHNEMAN, supra note 34, at 166-70 (presenting the “Blue Cab” experiment); see also Maya Bar-Hillel, The Base-Rate Fallacy in Probability Judgments, 44 ACTA PSYCHOLOGICA 211, 211-12 (1980) (same).

88 See Bar-Hillel, supra note 87, at 211-12.

89 See KAHNEMAN, supra note 34, at 167.
evidence standard” (> 0.5) that applies in civil litigation. Based on this insight, Kahneman, Tversky, and their collaborators claimed to have established a mismatch between the factfinders’ cognition and the real probability.90

Similarly to Kaplow’s abstract model of the burden of proof, this argument is strikingly antidoctrinal. Begin with the second-personal framework of the trial. Under that framework, the fact that 85% of the cabs in town are blue rather than green is of no consequence. Whether the defendant’s cab hit the plaintiff has nothing to do with that statistical distribution. Correspondingly, the case-specificity principle holds that factfinders should disregard this piece of information.

What is of consequence is the witness who saw the accident and who says that the cab that hit the victim was green. The fact that the witness correctly identifies cab colors 80% of the time is also relevant. As I already explained, factfinders can use such evidence as second-order information in assessing the credibility of the primary evidence (the witness’s testimony). The distribution of cabs in town, on the other hand, cannot be used as credibility evidence because an ordinary person can tell green from blue even when she is accustomed to seeing one green cab and many blue cabs. The plaintiff’s case-specific story, corroborated by the eyewitness, consequently wins the plausibility contest. In numerical terms, this story has an 80% probability of being true, precisely as estimated by the factfinders.

For Kahneman, Tversky, and their collaborators, the “case-specificity” principle and the whole idea of second-personal factfinding make no sense. The fact that participants in their “Blue Cab” experiment followed an established legal doctrine is equally immaterial. The only thing that mattered was the Bayes’ Theorem violation. For Kahneman, Tversky, and other behavioral economists, a person can only be rational when she follows that theorem. When a person violates that theorem, she is irrational, by definition.

This narrow understanding of probabilistic rationality brushes aside the causative probability system that underlies the case-specificity principle.91 As a normative matter, the Blue Cab case can be analyzed under two distinct analytical frameworks: mathematical and causative.92 The mathematical framework uses Bayes’ Theorem, whose application gives the

90 Id.
92 Id. at 253-56.
victim's case a 0.41 probability (if we ignore some additional problems with the “Blue Cab” experiment). This probability represents the errant cab's chances of being green rather than blue, with a cab-identifying witness scoring 80 out of 100 on similar identifications in a town in which 85% of the cabs are blue and 15% are green. The causative framework, on the other hand, yields an altogether different result, close to the mathematical probability of the witness's accuracy (0.8). Under this framework, an event's probability corresponds to the quantum and variety of the evidence that confirms the event's occurrence while eliminating rival scenarios. This qualitative criterion separates causative probability and the case-specific stories to which it attaches from the mathematical calculus of chances. Under this criterion, the eyewitness's testimony that the errant cab was green was credible enough to rule out the “errant blue cab” scenario as causatively implausible. On the other hand, the distribution of blue and green cabs in the given town had no proven effect on the eyewitness's capacity to tell blue from green. The eyewitness's testimony consequently overrides the cab-color statistics.

Remarkably, Kahneman, Tversky, and their collaborators do not even say what the legal system would gain if factfinders were to follow Bayes’ Theorem. To find out, consider one hundred cases similar to the “Blue Cab” scenario and assume that factfinders abandon the case-specificity principle and follow Bayes' Theorem instead. They determine that the suit's probability in each case equals 0.41 and dismiss each and every of the one hundred suits for failure to establish preponderance. Contrary to the implicit assumption of Kahneman, Tversky, and other behavioral economists, the factfinders would not deliver 59 correct decisions out of 100. Instead, they would deliver only 20 correct decisions and 80 erroneous verdicts. Their rate of errors would track the number of color misidentifications by the eyewitness. As I already explained, this number will remain unaffected by the fact that 85% of the cabs in town are blue and only 15% are green. For that reason, if factfinders were to apply Bayes' Theorem in violation of the case-specificity requirement, they would increase the cost of error instead of decreasing it.

The cost-minimization principle thus also requires factfinders to ignore the cab-color statistic and base their decisions on the eyewitness's testimony.

93 Id. at 243-46.
94 Id. at 235-46.
95 For further critique of Tversky and Kahneman’s claim that people systematically make probabilistically irrational decisions, see Alex Stein, Are People Probabilistically Challenged?, 111 MICH. L. REV. 855 (2013) (book review).
alone. The cab-color statistic can only increase, rather then decrease, the prospect of error in the factfinders’ decision because it has no causal connection to the plaintiff’s story. The fact that Green Cab owns only 150 out of 1000 cabs in town does not integrate in any causally meaningful way with the eyewitness’s testimony: “I saw the cab that injured the plaintiff, and it was green.” Behavioral economists call the factfinders’ decision for the plaintiff a “base rate neglect,” but we could equally see it as according overriding power to evidence of causes and effects. Evidence doctrine systematically prefers causative evidence to naked statistics because it aims at getting courts closer to the truth. We live in a world of causes and effects.

Consider the disruption that our criminal justice system would endure if it cared about base rates. Take a sophisticated crime—say, counterfeiting United States currency—that only one person out of a million can successfully carry out. Assume that two independent eyewitnesses identify Rick as a successful counterfeiter. Assume further that each of those witnesses was tested for credibility and, as in the “Blue Cab” scenario, was found to give a completely truthful description of what she saw 80% of the time. The two witnesses thus give factfinders a very high aggregated probability of the defendant’s guilt: 0.96 [0.8+0.8-(0.8x0.8)]. Assume that this probability satisfies the “beyond a reasonable doubt” standard.

At this point, the defendant asks the factfinders to factor in the 1/1,000,000 base rate, which should lead to his immediate acquittal. The prosecutor protests. She says that with this base rate any criminal trial would be a waste of time and resources, to which the defendant responds, “This is exactly my point. Can I go now?” Fortunately for all of us, the defendant cannot go scot-free. Our legal system does not allow factfinders to rely on base rates that have no causal connection to case-specific evidence.96

IV. MORAL ANTIDOCTRINALISM

Ronald Dworkin’s important essay, Principle, Policy, Procedure, originally appeared in the Festschrift honoring the late Sir Rupert Cross, one of the

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world’s finest doctrinal scholars of evidence. This essay was nonetheless theoretical, rather than doctrinal, and it also was Dworkin’s first and only contribution to the field of evidence. The newcomer status did not prevent Dworkin from spotting and attempting to resolve one of the field’s most fundamental questions: What is the right way to deal with the risk of error in factfinding?

To resolve this question, Dworkin distinguished between two kinds of injustice: accidental and deliberate. Accidental injustice occurs when a person’s entitlement—say, the right to be cleared of criminal charges or allegations of negligence—deserves to be upheld, but the court denies that entitlement to the person based on the available evidence. The available evidence unequivocally identifies the person as guilty even though he is factually innocent. The gap between the evidence and the true facts, for which the court is not accountable, makes the resulting injustice accidental rather than deliberate. The court’s decision does not purport to convict a person identified by the evidence as actually or possibly innocent.

Arguably, Dworkin’s distinction is untidy because making the adjudicative system more meticulous about factfinding could narrow the gap between the evidence and the truth. For Dworkin, however, this objection is beside the point because it is not strong enough to recharacterize an accidental act of injustice that does not target any specific individual for a deliberate denial of right. Under Dworkin’s theory, setting up a cost-conscious system of adjudication that accidentally denies people their dues is morally justified. Dworkin explains that societal resources are scarce and there is no overriding moral imperative which demands their channeling into court proceedings, as opposed to health, education, highways, border patrol, and other social amenities. Citizens benefiting from those amenities may occasionally be harmed by the underfunded system of adjudication.

99 See FOUNDATIONS, supra note 6, at 12-25 (arguing that allocation of the risk of error is a principal objective of evidence law). This argument was first made in Alex Stein, The Law of Evidence and the Problem of Risk Distribution (1990) (unpublished Ph.D. dissertation, University of London) (on file with London University Senate) and subsequently developed in Alex Stein, The Refoundation of Evidence Law, 9 CAN. J. LAW & JURISPRUDENCE 279 (1996).
100 DWORKIN, supra note 98, at 79-88.
101 Id. at 84-85.
102 Id.
103 Id.
system may accidentally work against a person by unintentionally producing an erroneous decision that deprives her of her legal entitlement. Such an outcome, as regrettable as it may be, is morally indistinguishable from a traffic accident resulting from poor maintenance of the road.104

According to Dworkin, deliberate injustice is different.105 Rather than being impersonal, this injustice is always directed against a known victim.106 Consider a criminal case in which the evidence casts strong suspicion on the defendant but also shows that he may have not committed the alleged crime. In any such case, if the court decides to ignore the exonerating potential of the evidence and deliver a guilty verdict, it would produce deliberate injustice.107

Consider now a tort action in which a quadriplegic plaintiff blames his injury on a motorcycle crash that, according to him, resulted from his motorcycle’s malfunctioning suspension system.108 The plaintiff asks the court to find the motorcycle’s manufacturer responsible for his injury. To prove his allegation, the plaintiff calls an accident expert to testify about fifty similar accidents and about the fact that, after these accidents, the manufacturer developed a new and safer motorcycle model.109 The court decides to suppress this evidence. Other evidence does not make the plaintiff’s case more probable than not, and the jury rules for the defendant. Here, too, the injustice suffered by the plaintiff is deliberate rather than accidental because the evidence suppressed by the court could prove the alleged motorcycle defect. As Bentham famously put it, when you exclude such probative evidence, “you exclude justice.”110

Both of my examples involve a sacrifice of a person’s actual or potential entitlement for some general societal good. In the criminal case, the court overrides a reasonable doubt for a reason: the alternative—acquittal of a person who likely committed the alleged crime—would pose a danger to society. In the tort action, the court suppresses evidence of the new motorcycle design because its admission might discourage manufacturers from making similar improvements. Under Dworkin’s theory, neither of those sacrifices is justified because they force the individual to pay more than she should under the general utilitarian tradeoff underlying our

104 Id. at 84-87.
105 Id.
106 Id.
107 Id.
108 Id.
109 Id. at 468.
imperfect—but affordable—system of adjudication and its accidental errors. Those sacrifices are morally wrong because they are deliberate but not only for that reason. The fact that those sacrifices are deliberately imposed on an individual person also places them outside the permitted scope of the courts’ random errors. The person who endures the sacrifice pays an extra tax on top of the courts’ accidental errors to which she and everyone else are exposed. This extra tax violates Dworkin’s fundamental principle: the state’s duty to treat individuals with equal concern and respect.\footnote{DWORKIN, supra note 98, at 84-87.}

This principle is antidotal. It pays no regard to the second-personal framework of substantive entitlements and liabilities within which parties raise competing claims of authority and accountability. These claims play a zero-sum game against each other. As under Hohfeld’s system of jural relations,\footnote{See Wesley Newcomb Hohfeld, Fundamental Legal Conceptions as Applied in Judicial Reasoning 11-31 (Walter Wheeler Cook ed., 1919) (defining and systematizing jural relations).} when a plaintiff provides enough evidence to establish his legal authority over the defendant, the defendant becomes accountable to the plaintiff.\footnote{DARWALL, supra note 26, at 135-39.} Conversely, when the defendant’s evidence undermines the plaintiff’s claim of authority, it establishes the defendant’s unaccountability. For that reason, when a criminal court finds a reasonable doubt that overrides the probability of the defendant’s guilt and mandates his acquittal, it deliberately sacrifices the interests of crime victims, actual and potential. These victims consequently acquire a viable claim that they are as entitled as the defendant to equal concern and respect.

Turning to my second example, if the court were to allow the injured plaintiff to adduce the proffered evidence of subsequent remedial measures, it would expose the motorcycle’s manufacturer to the risk of error. The manufacturer’s safety improvement may not have originated from its acknowledgement of a defect in the motorcycle’s previous model. Factfinders nonetheless might interpret it as an implied admission that the plaintiff’s motorcycle had a defective suspension system. This decision would wrongfully establish the manufacturer’s accountability to the plaintiff. The manufacturer, of course, will object to that deliberate sacrifice. Specifically, the manufacturer will submit that it, too, deserves equal concern and respect.

The crime victims’ and the manufacturer’s demands for equal concern and respect create a stalemate that renders Dworkin’s model inoperative. This stalemate is not accidental. Adjudication that takes place under
conditions of uncertainty inevitably causes moral injustice to one party or another. Dworkin’s model cannot protect one party against moral injustice without inflicting a similar injustice on her opponent.

This structural constraint explains the cost-minimization principle and its comprehensive adoption by our legal system. The cost-minimization principle authorizes courts to convict defendants on a high probability of guilt that need not completely rule out the possibility of innocence. The cost-minimization principle also justifies the suppression of subsequent remedial measures. As far as implied admissions are concerned, such evidence cuts both ways. At the same time, allowing courts to use it would interfere with manufacturers’ businesses and discourage them from introducing safety improvements. Dworkin’s attempt at insulating our evidence system from cost–benefit calculations therefore falls apart. Our system can afford litigants no special protection against risk of error. All it can do is minimize the total cost of errors and error avoidance while equalizing the protection against errors across criminal defendants and parties to civil suits.

CONCLUSION

My mentor, William Twining, posited that “healthy discourse involves a constant interaction between relative generality and relative particularity.” Antidotal theories of law, both critical and constructive, involve no such interactions. These theories proceed from abstract normative premises—moral, economic, epistemological, and probabilistic—from which they develop top-down criticism and recommendations in the hopes to advance the understanding of the law and guide its reform. These theories, however, do not take doctrine and doctrinal practice seriously. For them, doctrine is merely a compilation of rudimentary meanings of relevant legal rules. This methodological standpoint ignores the rules’ synergies, structural interdependence, and organizing ideas. Antidotal theories thus can develop valuable insights only in the areas of morality, economics, epistemology, and probability. They offer no such insights for the law.

114 FOUNDATIONS, supra note 6, at 12-17.
115 Id.
116 Id. at 172-78, 214-19.