The Distortionary Effect of Evidence on Primary Behavior

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In this Essay, we analyze how evidentiary concerns dominate actors' behavior. Our findings offer an important refinement to the conventional wisdom in law and economics literature, which assumes that legal rules can always be fashioned to achieve socially optimal outcomes. We show that evidentiary motivations will often lead actors to engage in socially suboptimal behavior when doing so is likely to increase their likelihood of prevailing in court. Because adjudicators must base decisions on observable and verifiable information—or, in short, evidence—rational actors will always strive to generate evidence that can later be presented in court and increase their chances of winning the case regardless of the cost they impose on third parties and society at large. Accordingly, doctors and medical institutions will often refer patients to undertake unnecessary and even harmful examinations just to create a record that they went beyond the call of duty in treating them. Owners of land and intellectual property may let harmful activities continue much longer than necessary just to gather stronger evidence concerning the harm they suffer. And even the police will often choose to allow offenders to carry out crimes in order to improve the chance of a conviction. The effect we identify is pervasive. It can be found in virtually all areas of the law. Furthermore, there is no easy way to eliminate or correct it. It should be noted, however, that the evidentiary phenomenon we discuss also has a positive side effect: it reduces adjudication costs for judges and juries and improves the accuracy of court processes. In some cases, this improvement will exceed the social cost stemming from actors' suboptimal behavior. In other contexts, however, the social cost will far outweigh the benefit.

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INTRODUCTION

Andy is driving on a narrow and winding road without shoulders. All of sudden, a car driven by Bob arrives from the opposite direction. Bob, preoccupied with his cell phone, inadvertently crosses the dividing white line and enters Andy's lane at a slow speed. Andy notices Bob, but it is too late to draw Bob's attention. At this point, Andy faces two options: he can either swerve sharply into a ditch on his right or let Bob's car crash into his at a speed of 20 miles per hour. Andy estimates the expected cost of each of the options he faces. Driving his car into the ditch will result in a damage of $1,000 to his car. Staying where he is and letting Bob's car crash into his will cause Andy's car a damage of $3,000 and Bob's car a damage of $4,000. Due to Bob's car's low speed, no danger is posed to either driver's bodily integrity.

Which option should Andy choose? According to standard law and economics, the answer is obvious: Andy must swerve to the right and avert collision. Under this option, at a cost of $1,000 to himself Andy can save both parties the much greater expense of $7,000 ($3,000 to himself and $4,000 to Bob). Swerving is the least-cost solution in this case. It is clearly the socially desirable behavior as well. Yet, if Andy is a rational actor, he will choose to let Bob's car collide into his.

How come? The reason is simple. If Andy swerves to the right, it will be almost impossible for him to prove that Bob caused the damage his car suffered. Proving Bob's negligence in court is going to be a near impossible task as well. In fact, chances are that Andy may not even be able to identify Bob's car or find its whereabouts after their chance encounter. But even if Bob stops, he may deny his responsibility for the accident—in good or bad faith—and challenge Andy's version of the events. Choosing the collision option improves Andy's fortunes quite dramatically. True, he will incur a greater harm (as will Bob), but here he will have a very easy time proving Bob's liability in court. Allowing the collision negates the chance that Bob will be able to drive away. Moreover, it produces incontrovertible evidence regarding Bob's liability. The police officer who will arrive at the accident scene will immediately see that Bob crossed a white line, entered the opposite side of the road and crashed into Andy's car. The collision option, therefore, guarantees Andy full recovery for his harm. Alas, it does so at a

significant (and socially redundant) harm to Bob, as well as a greater (and equally unnecessary) harm to Andy. The collision option is socially inferior to the alternative, but Andy, as a self-interest maximizer, will still choose it since it clearly offers *him* the highest expected payoff.[1]

This is by no means a peculiar example. Consider Clara, the owner of a summer home in the Pacific Northwest. A new chemical plant starts operating in the vicinity of Clara's property. The plant emits fumes and gases that cause damage to Clara's property. In principle, Clara can bring a nuisance action against the plant and seek injunctive relief—temporary or permanent. However, if she is rational, she will not do so right away. Instead, she will bide her time and let the harmful effects accumulate. Specifically, she will do well to wait until the paint on the exterior begins to fade or even peel off and the plants in her front lawn wither. Although these harms could be avoided if Clara took swift legal action—and from a societal standpoint, Clara clearly should have acted in that manner—allowing them to transpire is the right decision from Clara's point of view as it will make her day in court a lot easier. Without actual proof of harm, Clara may not secure her desired remedy. With it, Clara is much more likely to prevail.

The same effect is present in our criminal law. Imagine that detectives from the New York Police Department receive information about a burglary of a jewelry store in midtown. Detectives rush to the scene. They assume positions around the store and watch the suspect arrive. They can arrest him before he attempts to break the lock. But they won't. Instead, in all likelihood, they will let the suspect enter the property and perhaps even ransack the showcases or break the safe lock before they actually arrest him. Acting prematurely will jeopardize their case in court.[2] Catching the

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[1] Andy's choice does not constitute comparative negligence, nor will it allow Bob to successfully invoke the "avoidable consequence" defense: *see infra* notes 62-65 and accompanying text.

[2] This example is modeled on a landmark criminal case, People v. Rizzo, 158 N.E. 888 (N.Y. 1927), featuring an armed robbery suspect arrested by the police while he and his accomplices were searching for the man they conspired to rob. The suspect was initially found guilty of attempted robbery, but the New York Court of Appeals reversed his conviction because the prosecution failed to establish that "in all reasonable probability the crime itself would have been committed, but for timely interference." *Id*. at 899-90. At the outset of this decision, *id*. at 888, the Court stated:

> The police of the city of New York did excellent work in this case by preventing the

burglar red-handed will get them satisfaction and good publicity, albeit at a considerable cost to the store owner.

Similar examples pervade our legal system. As we will show, they exist in a diverse range of legal fields, such as property law, patent law, torts, criminal law, and in all likelihood in all others. They all share one basic commonality: in all of them, evidentiary concerns cause a misalignment between the socially desirable behavior and the actual behavior adopted by a rational actor. This misalignment, or distortion, is fundamental and systematic. Furthermore, its implications for understanding the functioning of the law are significant. It suggests that the rules of primary behavior that exist in different areas of substantive law cannot *on their own* provide precise incentives to rational actors. Rather, rational actors will always interpret the dictates of our substantive law through an evidentiary gloss, which in many cases will prompt actors to deviate from the outcome envisioned by efficiency minded legislatures and courts.

The effect we identify in this Essay cannot be easily done away with. Nor can it be corrected. If fact-finders were omniscient, this distortion would disappear, but as long as they aren't and decisions about liability must be based on observable and verifiable facts, the effect will persist. There is no ready way to align a person's quest for favorable evidence and society's interest that individuals act productively, rather than wastefully or in a downright harmful way. In fact, the two interests are fundamentally incompatible.

The source of the problem may be traced back to the different theories that animate behavior-guiding legal rules and evidentiary rules. Behavior-guiding rules aim at protecting and improving society's well-being, and regulate individuals' activities in accordance with these goals. Evidentiary rules perform an altogether different function: their role is to determine what constitutes proof of the facts upon which courts should recognize individuals' liabilities and rights. Those rules consequently create an evidence-seeking motivation that affects people's choices among different courses of action. A person interested in prevailing in court will tend to act

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commission of a serious crime. It is a great satisfaction to realize that we have such wide-awake guardians of our peace. Whether or not the steps which the defendant had taken up to the time of his arrest amounted to the commission of a crime, as defined by our law, is, however, another matter.

in a way that maximizes the probability of this result.[3] This conduct will often come at the expense of a socially beneficial action that the evidence-seeker will abandon.

Let's return to the example of the accident between Andy and Bob. Andy's motivation in allowing the collision is profoundly inefficient and, perhaps, morally objectionable as well, but there is no way to avoid it. Ex ante, both drivers would be happy to make an agreement obligating Andy to swerve into the ditch and Bob to pay for the damage to Andy's car. Unfortunately, the two drivers cannot negotiate ex ante. They can start negotiating only after the accident, but at that ex post stage, Andy has already taken action to produce the evidence most favorable to his case and thereby foreclosed the possibility of reaching the outcome both drivers would have chosen ex ante.

Although behavior-guiding rules and evidentiary rules advance different instrumental goals, they operate simultaneously on real-world actors. And if the actor is rational, the evidentiary motivation will dominate. A rational actor should not care about the size of the damage (unless it happens to be a physical injury that he wants to avoid at all cost). She will take the course of action that generates the most favorable evidence for her case—that is, the evidence that maximizes her chances to recover compensation for her harm from the other person. The socially beneficial motivation to minimize

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[3] By the same token, a wrongdoer willing to avoid detection and liability will try to destroy or suppress inculpatory evidence and fabricate exculpatory evidence. For analyses of complex enforcement problems engendered by detection avoidance, see Arun S. Malik, *Avoidance, Screening and Optimum Enforcement*, 21 RAND J. ECON. 341 (1990); Chris W. Sanchirico, *Evidence Tampering*, 53 DUKE L.J. 1215 (2004); Chris W. Sanchirico, *Detection Avoidance*, 81 N.Y.U. L. REV. 1331 (2006); Jacob Nussim & Avraham D. Tabbach, *Controlling Avoidance: Ex Ante Regulation Versus Ex Post Punishment*, 4 REV. L. & ECON. 1 (2008). For analysis of evidence fabrication, see Chris W. Sanchirico & George G. Triantis, *Evidentiary Arbitrage: The Fabrication of Evidence and the Verifiability of Contract Performance*, 24 J.L. ECON. & ORG. 1 (2008). Fraudulent detection-avoidance and evidence fabrication fundamentally differ from evidence-generating behavior focused upon by this Essay. First and most important, we focus upon behavior that generates *true* evidence rather than upon frauds aiming to distort factfinders' decisions. Unlike evidentiary frauds, such behavior does not constitute a crime or a civil wrong. Moreover, there is generally no way to set up incentives against evidence-generating behavior: *see infra* text accompanying notes 25-35 and Part III.

the damage will dominate only in cases in which the best evidence an actor can produce does not suffice for a legal victory.[4]

Our main insight has far-reaching implications for economic analysis of law and legal theory in general. Whether a person will have evidence identifying the wrongdoer who caused his damage depends on empirical facts. Those facts do not correlate with incentives for socially responsible behavior. They do not promise favorable evidence to a person who acts responsibly, nor do they deny such evidence to a person who acts in a socially irresponsible way. The epistemology of causation is agnostic as to who did the right thing and who acted wrongly from an economic or moral perspective.

Evidence specialists and law and economics experts have paid no attention to this observation. Extant scholarship has focused exclusively upon the cost of evidentiary processes and the challenges it presents to law-enforcement.[5] Accordingly, the principal policy recommendations one finds in the literature include cutting the costs of discovery and proof;[6] elimination of suits that require costly fact-finding;[7] substitution of expensive factual inquiries by decisional shortcuts,[8] proxies[9] and credible

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4 This motivation will also dominate when the actor estimates that she is unlikely to recover compensation due to the wrongdoer's insolvency.

5 For summary and critical discussion of this scholarship, see ALEX STEIN, FOUNDATIONS OF EVIDENCE LAW 141-71 (2005).

6 *See* Richard A. Posner, *An Economic Approach to the Law of Evidence*, 51 STAN. L. REV. 1477, 1481-87 (1999).

7 *See* STEIN, *supra* note 5, at 3-8; *see also* Douglas Lichtman, *Copyright as a Rule of Evidence*, 52 DUKE L.J. 683 (2003) (rationalizing "fixation" and "creativity" requirements for copyright protection as savers of factfinding costs); Fred C. Zacharias, *The Politics of Torts*, 95 YALE L.J. 698 (1986) (rationalizing tort liability limitations by societal need to contain the costs of court proceedings); James A. Henderson, Jr., *Process Constraints in Tort*, 67 CORNELL L. REV. 901 (1982) (developing a general process-cost theory of torts).

8 *See* Ronald J. Allen, *Presumptions in Civil Actions Reconsidered*, 66 IOWA L. REV. 843 (1981).

9 For a seminal account of how to use evidence-production costs as a proxy for the adequacy of the producer's primary behavior, see Chris W. Sanchirico, *Relying on the Information of Interested—and Potentially Dishonest—Parties*, 3 AM. L. & ECON. REV. 320 (2001). *See also* Louis Kaplow, *The Value of Accuracy in Adjudication: An Economic Analysis*, 23 J. LEGAL STUD. 307 (1994); Chris W. Sanchirico, *Games, Information and Evidence Production: With Application to English Legal History*, 2 AM. L. & ECON. REV. 342 (2000).

signals;[10] and the introduction of penalty multipliers that intensify deterrence in areas where law is insufficiently enforced due to the high cost of evidence.[11] The existing scholarship is unquestionably important and insightful. Yet, it fails to notice that cost of evidence is not the only evidence-related hurdle with which our legal system needs to deal. Inefficiencies might occur not only when the cost of evidence is high but also when it is low. In this Essay, we hope to rectify this omission.

Structurally, the Essay proceeds as follows. In Part I, we provide a detailed account of standard economic models of optimal behavior and, then, show how attention to evidence changes the main results. In Part II, we demonstrate how evidentiary motivations distort actors' primary behavior in various legal areas, including tort, property, contract, criminal, and intellectual property law. In Part III, we consider the possibility that evidence generating behavior may be socially desirable despite its distortionary effect on primary behavior owing to the saving it effects for courts by facilitating liability determinations and improving their accuracy. A short conclusion follows.

I. EVIDENTIARY DISTORTIONS

The principle of harm minimization is a central tenet of law and economics. According to this principle, legal rules ought to minimize aggregate social harm, defined by the grand total of the cost of the harm for those who suffer it and the cost of its avoidance or abatement for those who are best situated to prevent or reduce it. As Ronald Coase showed, when transaction costs are sufficiently low private parties can achieve this goal by private ordering that leads to coordinated minimization of the harm.[12] In the majority of cases, however, when transaction costs are high and private coordination is

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10 *See* STEIN, *supra* note 5, at 157-67; *see also* Daniel J. Seidmann & Alex Stein, *The Right to Silence Helps the Innocent: A Game-Theoretic Analysis of the Fifth Amendment Privilege*, 114 HARV. L. REV. 430 (2000) (justifying the right to silence as a mechanism that elicits credible signaling from criminal defendants by reducing criminals' incentive to pool with innocents).

11 *See* Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (1968); *see also* A. Mitchell Polinsky & Steven Shavell, *Punitive Damages: An Economic Analysis*, 111 HARV. L. REV. 870, 897 (1998) **(**courts should take defendants' probability of escaping liability into account when calculating punitive damages**)**.

12 *See* Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 42-44 (1960).

impracticable, the legal system is supposed to step in and interpose rules that regulate potentially harmful activities by allocating the burden of preventing the harm on the appropriate actor.

In performing this task, efficiency minded lawmakers should be guided by "the cheapest cost avoider" criterion.[13] According to this criterion that was devised by Guido Calabresi,[14] the burden of preventing (or abating) a harm should be placed on the person who is best situated to perform this task.[15] In the simplest two-party scenario, the choice will be between the wrongdoer and the victim. Consider the case of an accident between a car and a bicycle rider, which caused the latter a harm of $3,000. Assume that the car driver could have avoided the harm by expending $1,000 and the victim could have only prevented it at a cost of $2,000. In this example, the car driver is the cheapest cost avoider and should therefore be liable for the harm he inflicted on the bicycle rider.[16]

In more complicated cases involving multiple parties, the task of identifying the cheapest cost avoider becomes more complex.[17] Furthermore, the search for the cheapest cost avoider may be even more challenging in cases in which the prevention efforts of the parties are interdependent. In such cases, the cheapest way to prevent the harm requires a certain contribution by each party.[18] Although these complications can—and do—increase the cost of identifying the cheapest cost avoider, they do *not* undermine the general validity of the principle.

Indeed, the cheapest cost avoider principle won over many and diverse champions.[19] Even though it was originally developed in the context of tort

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13 *See* GUIDO CALABRESI, THE COSTS OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS 68-94, 135-73, 244-65 (1970) (developing "the cheapest cost avoider" method for minimizing the cost of accidents).

14 *Id.*

15 *Id.*

16 We assume for simplicity's sake that in this case the relative costs of prevention for the parties are independent of each other.

17 *See generally* IZHAK ENGLARD, THE PHILOSOPHY OF TORT LAW 31-35 (1993) (underscoring informational difficulties in the identification of the cheapest cost avoider).

18 When there are interdependencies between the contributions of the driver and the bicycle rider in our above example, it is possible that the harm can be prevented at a lower *total* cost than $1,000. For instance, the harm could be avoided more cheaply if the driver were to expend $500 and the bicycle rider $400.

19 *See, e.g.*, Giuseppe Dari-Mattiacci & Nuno Garoupa, *Least-Cost Avoidance: The*

liability, scholars have applied it in all other areas of the law, effectively turning it into a general principle of assigning liability for harm.[20]

It bears emphasis that the main function of the cheapest cost avoider principle is not distributional. Rather, it embodies the more general idea of harm minimization. The imposition of liability on the party best positioned to minimize harm is intended to induce that party to behave in a socially optimal way. Specifically, this principle is designed to guide the primary behavior of individual actors in a way that aligns those actors' private interest with societal goals. The accepted lore among law and economics scholars is that appropriately designed rules of torts, property, intellectual property, criminal law, and the like, will secure this critical alignment between private and social interest.[21] That is, the conceptualization of substantive legal rules that allocate entitlements and remedies in accordance with the cheapest cost avoider principle will induce the relevant actors to reduce the aggregate cost of harm and avoidance measures to the bare minimum. Indeed, the real challenge from the standpoint of efficiency is not to identify the party who is best situated to reduce the grand total cost of harm and preventive measures *per se*, but rather to induce that party to reduce that grand total to the lowest possible amount.

The following example is illustrative. Assume that a cement plant is producing loud noise that causes a harm of $10,000 to Alice who lives nearby. The noise level can be reduced in one of two ways: first, the plant may implement a new production technique at a cost of $1,000,000, and

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Tragedy of Common Safety, 25 J.L. ECON. & ORG. 235, 235-36 (2009) (attesting that the cheapest cost avoider principle "is unanimously recognized as desirable").

20 *See, e.g.*, Henry E. Smith, *The Harm in Blackmail*, 92 NW. U. L. REV. 861, 883 (1998) (applying the cheapest cost avoider criterion to criminal blackmail); Tun-Jen Chiang, *Fixing Patent Boundaries*, 108 MICH. L. REV. 523, 526 (2010) (using the cheapest cost avoider principle to allocate responsibility for errors in patent claims); Adam B. Badawi, *Harm, Ambiguity, and the Regulation of Illegal Contracts*, 17 GEO. MASON L. REV. 483, 530 (2010) (relying on the cheapest cost avoider criterion in allocating losses from illegal contracts); James J. Park, *Shareholder Compensation as Dividend*, 108 MICH. L. REV. 323, 346-47 (2009) (using the cheapest cost avoider standard in ascribing liability for securities fraud); Christopher Serkin, *Existing Uses and the Limits of Land Use Regulations*, 84 N.Y.U. L. REV. 1222, 1272 (2009) (applying the cheapest cost avoider standard to land use regulation); Stewart E. Sterk, *Property Rules, Liability Rules, and Uncertainty About Property Rights*, 106 MICH. L. REV. 1285, 1315 (2008) (using the cheapest cost avoider criterion in allocating the responsibility for uncertainty about property rights).

21 *See* sources cited in note 20 above.

thereby eliminate the problem. Second, Alice can install a set of double-pane windows that will block out all the noise at a cost of $20,000. Under these facts, it is clear that the socially desirable way to solve the noise problem is to install the double-pane windows. An efficiency-minded judge therefore should order Alice to install the windows. Of course, there is also the question of which party should pay for the installation. This, however, is a purely distributional question.[22] If the judge thinks on fairness grounds that the plant, rather than Alice, should bear the cost of installing the windows, she can supplement the order by requiring the plant to reimburse Alice for her expenses. Hence, in some cases the cheapest cost avoider (here, Alice) is not necessarily the party who should incur the cost of implementing the preventive measure.

The decision who should bear the cost of abatement is of great significance to the parties. Yet from the standpoint of societal welfare, it is completely secondary. The main goal is to ensure the result that the noise problem is eliminated at the lowest possible cost—in this case, $20,000. Any expenditure beyond this amount is socially wasteful and hence, should be discouraged. For instance, if Alice had another option of eliminating the noise, say by erecting an acoustic barrier at a cost of $50,000, efficiency would militate against the adoption of this measure as it represents a waste of $30,000—the difference between the cost of this measure ($50,000) and the cost of the double-pane windows ($20,000).

Furthermore, standard law and economics analysis assumes that parties will unilaterally comply with the principle of harm minimization.[23] Actors who are best positioned to minimize the relevant harm at the lowest possible cost will indeed try to do so.[24] For instance, in our previous example, Alice is expected to install the double-pane windows on her own and then sue the plant for reimbursement.

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22 Indeed, there is a debate in the law and economics literature as to whether distributional goals should be carried out by substantive legal rules or only through the tax system. For the former view, see Chris W. Sanchirico, *Taxes versus Legal Rules as Instruments for Equity: A More Equitable View*, 29 J. LEGAL STUD. 797 (2000); Matthew D. Adler & Chris W. Sanchirico, *Inequality and Uncertainty: Theory and Legal Applications*, 155 U. PA. L. REV. 279 (2006). For the latter view, see Louis Kaplow & Steven Shavell, *Why the Legal System is Less Efficient than the Income Tax in Redistributing Income*, 23 J. LEGAL STUD. 667 (1994).

23 *See, e.g.*, CALABRESI, *supra* note 13, at 135-38.

24 *Id.*

A key assumption of the law and economics movement is that actors respond to incentives.[25] Accordingly, the role of substantive legal rules is to incentivize actors to comply with the prescriptions of wealth maximization and avoid unnecessary waste of resources.[26] In Alice's case, the law's task is to ensure that Alice adopts the socially desirable prevention measure—the double-pane windows. If Alice were to implement a wasteful measure, such as an acoustic barrier, she would not be entitled to recover the cost of that measure from the plant.

This canonical account is flawed, however, as it ignores the centrality of the adjudicative mechanism through which primary behavior rules are implemented.[27] In particular, it pays no heed to the key role of evidence in establishing legal entitlements and liabilities. If judges and juries were omniscient, this omission would be of no consequence. In a world with perfect information, judges and juries would never err in implementing substantive legal rules. In this world, entitlements and liabilities would always be assigned properly. Importantly, in such a world, there would be no need for courts or adjudicative processes to begin with.[28] Since all individuals in this world will be perfectly informed, there will be no need to expend resources on evidence production and factfinding.

Of course, this is not the world we live in. In the real world, adjudicators must decide cases based on observable and verifiable information—or, in legal parlance, evidence. Aware of this fact, rational actors will always be mindful of the centrality of evidence and information production to their success in future litigation. Although the rules and standards of conduct are specified by substantive law, *actual* liability determinations, as well as remedies, depend on the evidence parties can produce. For example, under a negligence regime, the question whether Andy can recover compensation from Bob, who caused damage to his car, depends on Andy's ability to

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25 *See* RICHARD A, POSNER, ECONOMIC ANALYSIS OF LAW 4 (6th ed. 2003).

26 *Id.* at 24-25; 167-70; 215-19; *see also* STEVEN SHAVELL, FOUNDATIONS OF ECONOMIC ANALYSIS OF LAW 2-4 (2004); ROBERT COOTER & THOMAS ULEN, LAW & ECONOMICS 15, 293 (5th ed. 2008) (stating that a rational legal system strives to achieve welfare-maximization—a goal that requires "uniting knowledge and control over resources at least cost.").

27 Law and economics scholars acknowledge, however, that adjudication costs may distort the allocation of substantive liabilities and entitlements. *See* POSNER, *supra* note 6, at 563-64; 577.

28 *See* STEIN, *supra* note 5, at 33 (arguing that evidentiary rules and processes are not needed when adjudicators are epistemically infallible).

prove by the preponderance of the evidence that Bob was negligent. If Andy fails to produce the requisite evidence, he will lose his case even though Bob was *in fact* negligent. The same holds true for all rights and remedies. Rights and remedies do not operate in a vacuum. Indeed, they are meaningless for real world actors unless those actors can produce the evidence necessary to substantiate them.

An important implication of this insight is that in the real world the evidentiary motivations will often affect actors' primary behavior in ways that are inconsistent with the demands of economic theory. The desire to be in possession of convincing evidence will cause rational parties to expend resources on production of such evidence even when doing so is socially wasteful. Each actor consequently has a strong incentive to behave in a way that generates evidence favorable to her case in court. This evidentiary motivation will often undermine substantive law's efforts to minimize harm at the lowest possible cost. The incentive to minimize harms set by substantive legal rules will only be effective when following them yields the actor the most favorable evidence she can generate. Obviously, this is not going to happen in many cases. The evidence that an actor can generate depends on the factual circumstances of her case, and those circumstances depend on empirical contingencies. They do not track the desirability of the actor's behavior from the cheapest-cost-avoider or other point of view.

To illustrate, let's return to the example of the accident between Andy and Bob. Assume that Andy could avoid the collision but only by incurring a non-negligible harm to his car. Letting the accident occur will cause a considerably greater harm to Andy's car, but will also produce irrefutable evidence of Bob's negligence. Will Andy avoid the collision? If Andy is a self-interest maximizer, he will only avoid the accident if he is guaranteed to recover compensation for the harm he will incur in the process. Otherwise, he will choose the collision option even though it would result in a much greater combined harm to both automobiles. From Andy's vantage point, the decisive determinant is not social welfare. Rather, it is the payoff he will receive after suing Bob or Bob's insurance company. Allowing the collision to happen guarantees Andy a payoff of zero, whereas avoiding the collision produces a high probability of a negative payoff since Andy will be unlikely to prove Bob's negligence.

This result is robust and ubiquitous. The evidentiary overlay is always present and must be taken into account by rational actors. Evidence is the filter through which rights and entitlements are perceived. The distortion

caused by evidentiary motivations cannot be easily fixed and in many cases cannot be fixed at all. Furthermore, it is not confined to potential plaintiffs. A similar motivation often animates the decisions of potential defendants, as exemplified by the pervasive practice of defensive medicine.[29] Defensive medicine is a socially wasteful activity.[30] Yet, it is impossible to eradicate it because it produces valuable evidence for doctors and medical institutions that may make the difference between winning and losing a medical malpractice case.[31] In this case and others, no legal intervention can eradicate the evidentiary distortion we identified.

In other contexts, the distortionary effect is caused by the law itself. This happens when the law conditions the availability of certain remedies on the occurrence of repeated violations or the presence of cumulative harm.[32] In such cases, the distortionary effect caused by the motivation to produce the evidence necessary to secure the desired remedy can be cured by changing the content of substantive legal rules. Yet, even in this scenario, the fix is not simple. As we will show, changing the design of substantive law—or of the evidentiary requirements necessary to prove one's case—will lead to other inefficiencies. For example, if lawmakers were to waive the harm requirement and make all remedies available to successful plaintiffs regardless of the level of harm they suffered, it will all put *all* wrongdoers on a par and prevent courts from differentiating among wrongdoers based on the harm criterion. In the area of criminal law, elimination of the harm criterion would create arbitrariness in the imposition of punishments and social stigma.[33] All other bases for convicting and punishing people are morally questionable, conceptually unstable, and operationally malleable.[34]

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29 *See infra* notes 102-106 and accompanying text.

30 *See infra* notes 102-106 and accompanying text.

31 *See infra* notes 102-106 and accompanying text.

32 *See infra* Parts II.B.-C.

33 *See, e.g.*, Paul H. Robinson, *A Theory of Justification: Societal Harm as a Prerequisite for Criminal Liability*, 23 UCLA L. REV. 266, 266 (1975).

34 *See* 1 JOEL FEINBERG, THE MORAL LIMITS OF THE CRIMINAL LAW: HARM TO OTHERS 21, 31-37 (1984) (explaining why criminal law should penalize people only for causing harm conceptualized as a morally wrongful invasion of another's interest); George P. Fletcher, *Ambivalence About Treason*, 82 N.C. L. REV. 1611, 1612 (2004) (underscoring that the harm requirement is central to the "nature and purpose" of criminal law).

As such, they would make it too easy for the government to manipulate criminal processes and deny individuals their basic liberties.[35]

These constraints entrench the extant evidentiary requirements by making them difficult, if not impossible, to dispense with. The distortionary effect of evidence-seeking on primary behavior consequently becomes ineradicable. In Part II, we demonstrate the prevalence of this effect by cataloguing various legal doctrines in which it is present. In each case, we also assess whether the distortionary effect can be fixed and at what cost.

II. DOCTRINE

In this Part, we show that actors' quest for evidence distorts primary behavior in multiple legal areas.[36] We demonstrate that the distortion of primary behavior by evidence-seeking conduct is a both pervasive and largely ineradicable phenomenon. That said, it should be emphasized that we do not claim that distortion will occur in *all* cases. Distortion is likely to occur only in those cases where production of evidence by a party will allow her to prove her case by the preponderance of the evidence in civil cases, or beyond a reasonable doubt in criminal cases.[37] In other cases, when the outcome of the case—favorable or unfavorable—is certain irrespectively of the evidence a party can produce, no distortionary effect is expected. With this caveat in mind, we can now embark on our doctrinal odyssey. We begin with criminal law and then proceed to the fields of torts, property and intellectual property.

A. Criminal Law

Evidence plays a crucial role in every decision concerning criminal liability. A suspected criminal can only be arrested when the police show the presence of a "probable cause"—evidence indicating that the suspect

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35 *See* Robinson, *supra* note 33, at 266-67.

36 It is quite possible that this effect can be found in all legal areas, but since proving this hypothesis is beyond the scope of this Essay, we leave this ambitious claim for future projects.

37 Or from a potential defendant's side, when production of evidence can engender a reasonable doubt that will lead to acquittal.

committed, or was about to commit, a criminal offense.[38] As the criminal process progresses toward indictment and conviction, the evidentiary requirements become more demanding. For example, in order to prove conspiracy, the prosecution must produce evidence of an "overt act" by which the alleged conspirators have begun implementing their criminal goal.[39] Absent such evidence, the conspirators' mere talk will fall short of showing the requisite endangerment of society.[40] By the same token, in order to establish that a defendant accused of a criminal attempt crossed the line of "preparation" and moved on to commit the crime itself, the prosecution needs to adduce evidence demonstrating that the defendant made a "substantial step" towards the consummation of the contemplated crime.[41] Finally, in all criminal trials, the prosecution is required to prove "beyond a reasonable doubt" each and every element of the crime it accuses the defendant of.[42] This proof requirement extends to the defendant's

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38 *See* WAYNE R. LAFAVE, ET. AL, CRIMINAL PROCEDURE § 3.3, at 163-74 (5th ed. 2009) (explicating the "probable cause" requirement for arrest); *see also* Terry v. Ohio, 392 U.S. 1, 35 (1968) (Douglas, J. dissenting) ("probable cause" does not require that police officers wait until a suspect "commit[s] a crime before they are able to 'seize' that person."); Brigham City, Utah v. Stuart, 547 U.S. 398, 399 (2006) (evidence of ongoing violence constitutes "probable cause" because the Fourth Amendment does not require the police "to wait until another blow rendered someone unconscious, semiconscious, or worse "). Note that upon reasonable suspicion that a suspect is carrying a weapon and might use it against the police officer or another person, the officer can stop the suspect to search for weapons without arresting him: Terry v. Ohio, 392 U.S. 1, 27 (1968).

39 *See, e.g.*, WAYNE R. LAFAVE, CRIMINAL LAW § 12.2(b), at 626 & n.52 (4th ed. 2003) (reviewing the "overt act" requirement for conspiracy).

40 *See, e.g.*, Yates v. United States, 354 U.S. 298, 334 (1957) ("The function of the overt act in a conspiracy prosecution is … to manifest 'that the conspiracy is at work.'") (citation omitted).

41 *See* Model Penal Code § 5.01(1)(c) ("A person is guilty of an attempt to commit a crime if, acting with the kind of culpability otherwise required for commission of the crime, he . . . purposely does or omits to do anything that, under the circumstances as he believes them to be, is an act or omission constituting a substantial step in a course of conduct planned to culminate in his commission of the crime."); LAFAVE, *supra* note 39, § 11.4(e), at 594 ("The Model Penal Code's 'substantial step' language is to be found in the great majority of the attempt statutes in the modern recodifications."); *see also* United States v. Prichard, 781 F.2d 179, 182 (10th Cir. 1986) ("The police need not wait until the defendant is on the verge of committing the specific act that constitutes the crime. If this were the rule, much of the preventative purpose of inchoate liability would be vitiated.").

42 *See* STEIN, *supra* note 5, at 172-83 (outlining the scope of the "proof beyond a reasonable doubt" requirement and analyzing the requirement's rationale).

conduct, the conduct's consequences, and to whether the defendant acted willfully and intended to bring about those prohibited consequences.[43]

Each of those evidentiary requirements makes perfect sense. The criminal law system tries to apprehend, censure, deter and incapacitate people whose actions pose a serious danger to society.[44] To attain these goals, the system authorizes police, prosecutors and courts to impose severe limitations on people's liberties. Under appropriate circumstances, a person can be arrested, searched, deprived of her belongings, prosecuted, convicted and punished. These measures inflict substantial harm upon criminal defendants and suspects. The system consequently needs to install safeguards against arbitrary and erroneous inflictions of that harm. Those safeguards integrate two sets of rules. The first set contains the evidentiary requirements for proper application of the law-enforcement measures against individuals. These requirements specify the nature and the quantum of evidence that justify a person's arrest, search, seizure, prosecution, conviction and punishment. The second set constitutes an assembly of remedial rules that respond to violations of the evidentiary requirements. These rules void arrests, suppress evidence, quash convictions, mandate acquittals, set aside punishments and order retrials. As a supplementary remedy, they also allow wronged suspects and defendants to recover compensation from the government and its law-enforcement officers.[45]

The remedial rules thus undo the results of a defective enforcement of criminal law. The ex ante effect of those rules is to incentivize compliance with the evidentiary requirements for police, prosecutors and trial judges. Under those rules, police and prosecutors have a strong incentive to secure the trial and the appellate court's affirmation of the evidence underlying a person's arrest, search, seizure, prosecution, conviction and punishment. Whether courts will accept the police's and prosecutors' case depends on the strength of the evidence incriminating the defendant. The stronger the

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43 *Id.*

44 *See* SHAVELL, *supra* note 26, at 543-44.

45 This remedy is available under 42 U.S.C. § 1983 (against state government) and under Bivens v. Six Unknown Named Agents of Federal Bureau of Narcotics, 403 U.S. 388 (1971) (against federal agents). *See* Hudson v. Michigan, 547 U.S. 586, 598 (2006) (underscoring growing effectiveness of compensatory redress as a remedy for violations of suspects' and defendants' rights by government agents); *see also* Alex Reinert, *Measuring the Success of* Bivens *Litigation and its Consequences for the Individual Liability Model*, 62 STAN. L. REV. ___ (2010) (carrying out empirical investigation of *Bivens* suits and reporting their relative success).

evidence, the better are the police's and the prosecutor's chances to secure the defendant's arrest, conviction and punishment.

Unfortunately, however, the strength of inculpatory evidence correlates with the defendant's advancement of his criminal endeavor. The closer the defendant moved to the accomplishment of the offence, the stronger the evidence. The police's role as a law-enforcer consequently involves an irremediable tension between two societal goals. On the one hand, the police are required to prevent crime and minimize the harm that criminals inflict upon individual victims and communities. On the other hand, in order to deter crime and keep criminals off the street, the police often have no choice but to allow criminals to endanger and even harm individuals and communities since this is the only way to obtain inculpatory evidence. This tension is vividly illustrated by the classic case of *People v. Rizzo*,[46] mentioned in the Introduction. In that case, the police had only one way of generating evidence that could secure the defendant's conviction: allowing armed criminals to approach and start robbing their victim, despite the unnecessary emotional and, sometime physical, harm suffered by the victim.[47]

This method of gathering evidence is far from uncommon.[48] Moreover, police often switch from a passive strategy that merely allows a criminal to

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46 158 N.E. 888 (N.Y. 1927).

47 *Id.* For similar examples, see State v. Duke, 709 So.2d 580, 581 (Fla. App. 5 Dist. 1998) (child molester arrested too early to qualify as an attempter); Commonwealth v. Ortiz, 560 N.E.2d 698, 703 (Mass. 1990) (holding that riding in a car with a loaded gun in an unsuccessful search for intended victim was insufficient to support a conviction for attempted assault and battery); People v. Coleman, 86 N.W.2d 281, 285 (Mich. 1957) (holding that "the purchase of a hunting rifle, secretly intended for the murder of the neighbor" is "merely an act of [non-criminal] preparation"); *see generally* Richard A. Bierschbach & Alex Stein, *Mediating Rules in Criminal Law*, 93 VA. L. REV. 1197, 1234-41 (2007) (explaining how the tension between retribution and deterrence complicates the standards for identifying and punishing inchoate crimes).

48 For example, before making a drug-related arrest or stop-and-frisk, the police must wait for the suspected drug deal to be carried out, despite the risk of violence that such deals involve. *See*, *e.g.*, People v. McRay, 416 N.E.2d 1015, 1019-21 (N.Y. 1980) (holding that an exchange of a glassine envelope, the "telltale sign" of heroin, will constitute the lowest level of proof required for "probable cause" if money is passed in exchange for the envelope, if participants behave furtively or evasively, or if the exchange occurs in an area rampant with narcotics activity); State v. E.M., 735 A.2d 654, 659-61 (Pa. 1999) (holding that an exchange of a plastic baggie typically used to transport drugs constitutes evidence that allows the police to stop and frisk the suspects under the "reasonable suspicion" standard of Terry v. Ohio, 392 U.S. 1, 30 (1968), but is not

commit the contemplated offense to an active encouragement of the crime, known as "entrapment,"[49] and to undercover activities that involve police agents' participation in the criminal enterprise.[50] These evidence-generating practices have encompassed the commission of many serious crimes, including drug dealing,[51] sexual offenses,[52] fraud,[53] theft[54] and perjury.[55]

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strong enough to justify a pat-down search for weapons).

49 Entrapment is generally permitted, provided that the government does not "[overstep] the line between setting a trap for the 'unwary innocent' and the 'unwary criminal.'" Jacobson v. United States, 503 U.S. 540, 542 (1992) (citing Sherman v. United States, 356 U.S. 369, 372 (1958))). That is,

> "Where the Government has induced an individual to break the law and the defense of entrapment is at issue … the prosecution must prove beyond reasonable doubt that the defendant was disposed to commit the criminal act prior to first being approached by Government agents."

Jacobson, 503 U.S. at, 548-49 (citing United States v. Whoie, 925 F.2d 1481, 1483-84 (D.C. Cir. 1991)). *See also* United States v. Kaminski, 703 F.2d 1004, 1010 (7th Cir. 1983) (Posner J., concurring) ("If the police entice someone to commit a crime who would not have done so without their blandishments, and then arrest him and he is prosecuted, convicted, and punished, law enforcement resources are squandered in the following sense: resources that could and should have been used in an effort to reduce the nation's unacceptably high crime rate are used instead in the entirely sterile activity of first inciting and then punishing a crime. However, if the police are just inducing someone to commit sooner a crime he would have committed eventually, but to do so in controlled circumstances where the costs to the criminal justice system of apprehension and conviction are minimized, the police are economizing on resources.").

50 *See Jacobson*, 503 U.S. at 548 ("there can be no dispute that the Government may use undercover agents to enforce the law. 'It is well settled that the fact that officers or employees of the Government merely afford opportunities or facilities for the commission of the offense does not defeat the prosecution. Artifice and stratagem may be employed to catch those engaged in criminal enterprises.'" (quoting Sorrells v. United States, 287 U.S. 435, 441 (1932))). For a superb study of this phenomenon, see Elizabeth E. Joh, *Breaking the Law to Enforce it: Undercover Police Participation in Crime*, 62 STAN. L. REV. 155 (2009).

51 *See* Joh, *id*. at 156.

52 For representative examples, see State v. Morris, 272 N.W.2d 35 (Minn. 1978) (to obtain evidence of defendant's engagement in prostitution, undercover police officer partially undressed himself and negotiated sex for hire with defendant); State v. Yegan, --- P.3d ----, 2009 WL 4638858 (Ariz. App. Div. 1 2009) (police detective used internet to pose as a fourteen-year old girl, to conduct a sexually charged online conversation and arrange a date with a child molester in order to get him arrested); State v. Duke, 709 So.2d 580, 581 (Fla. App. 5 Dist. 1998) (police detective used internet to present himself as a twelve-year old girl and arrange a sex date with a child molester, who was arrested too early to qualify as an attempter). For an extreme example, see State v. Burkland, --- N.W.2d ----, 2009 WL 4040275 (Minn. App. 2009) (to obtain evidence of defendant's engagement in prostitution, undercover police officer posed as a paying customer and initiated sexual contact with defendant—a behavior that the court found

These practices are unquestionable harmful. They are, however, also unquestionably necessary.[56] Banning those practices might expose society to a greater harm.[57]

This tradeoff between deterrence and incapacitation of criminals, on the one hand, and the individual crime prevention, on the other hand, is ubiquitous. Whether there is a way to resolve it in a satisfactory way is a difficult question that we address below in Part III. At this stage, we only identify the social cost of evidence-seeking in criminal law or, more precisely, how the quest for inculpatory evidence distorts the primary behavior of police and prosecutors. The extent to which this distortion is inevitable and needs to be tolerated is a separate issue.

"offensive to due process"); *see also* Okin v. Village of Cornwall-On-Hudson Police Dept., 577 F.3d 415, 427-28 (2nd Cir. 2009) (observing that a police officer violates due process when he affirmatively creates or enhances violence against a private person).

53 *See* Joh, *supra* note 50, at 156-57 & n.6.

54 *Id*.

55 *Id*.

56 The Supreme Court recognized the necessity of those practices long ago: *see* Sorrells v. United States, 287 U.S. 435, 441-42 (1932) (holding that "artifice and stratagem … employed to catch those engaged in criminal enterprises" are permissible, and clarifying that "The appropriate object of this permitted activity, frequently essential to the enforcement of the law, is to reveal the criminal design; to expose the illicit traffic, the prohibited publication, the fraudulent use of the mails, the illegal conspiracy, or other offenses, and thus to disclose the would-be violators of the law.").

57 *See, e.g.*, FBI UNDERCOVER GUIDELINES: OVERSIGHT HEARINGS BEFORE THE SUBCOMMITTEE ON CIVIL AND CONSTITUTIONAL RIGHTS OF THE HOUSE JUDICIARY COMMITTEE, 97th Cong. 130 (1981) (statement of Philip B. Heymann, Assistant Attorney General, Criminal Division, Department of Justice). ("[U]ndercover operations are extremely effective in aiding us to identify, prosecute and convict the guilty and to reduce the chances that innocent parties will be caught up in the criminal process. … [T]hrough undercover techniques, we can muster the testimony of credible law enforcement agents, often augmented by unimpeachable video and oral taps which graphically reveal the defendant's image and voice engaged in the commission of crime. These techniques aid the truth-finding process by generally avoiding issues of mistaken identity or perjurious efforts by a witness to implicate an innocent person."). *See generally* Bruce Hay, *Sting Operations, Undercover Agents, and Entrapment*, 70 MO. L. REV. 387 (2005) (pioneering economic analysis of entrapment and sting operations that identifies operations' utility).

B. Torts and Property

In these areas of the law, proof of causation and damage is a prerequisite for an entitlement-holder's success in a suit against the alleged infringer. The plaintiff must prove by a preponderance of the evidence that the defendant acted in a way prohibited by her entitlement and caused—or will likely cause—the harm that the entitlement guards against.[58] In other words, the plaintiff must prove that she was wronged by the defendant. To this end, she must provide evidence showing that she suffered—or is about to suffer—a deprivation as a result of the defendant's wrongdoing. Failure to do so will result in a court decision that denies the plaintiff the legal remedy that she seeks to recover.

These basic evidentiary rules are aligned with common sense. Yet, they systematically distort the primary behavior of an entitlement-holder who faces an ongoing or imminent infringement of her entitlement. Those rules motivate the entitlement-holder to prefer a causally proven damage, however extensive it may be, to a damage unaccompanied with evidence of causation. This evidence-driven preference is perfectly rational. As a practical matter, a causally proven damage will likely win the entitlement-holder's suit against the infringer, while a causally unevidenced damage will certainly lose it. This pivotal factor makes the entitlement-holder anomalously indifferent to the sizes of the alternative damages. From a social welfare perspective, she should always prefer a smaller damage to a bigger one and act accordingly. The entitlement-holder, however, will opt for a bigger damage whenever it is actionable and the smaller damage is not. Evidentiary rules that apply in tort and property cases thus create a serious misalignment between the entitlement-holders' and society's interests.

This misalignment explains a prospective plaintiff's quest for impact evidence that unequivocally points to the wrongdoer. In our first introductory example, Bob car's collision with Andy's car gave Andy the impact evidence that would secure Andy's victory in a suit against Bob. The same misalignment of interest also explains a property owner's motivation to expose her property to continuous and ever-growing harm resulting from a defendant's activity. Cumulative harm stemming from a single causal factor—the defendant's activity—identifies the defendant as

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58 *See* STEIN, *supra* note 5, at 219-25 (outlining and rationalizing the "preponderance of the evidence" requirement for civil trials).

responsible for every incident of the harm. In our second introductory example, this evidentiary benefit explains a property owner's decision to expose her house to continuous pollution caused by the toxins emitted by a neighboring plant.

More often than not, evidence of impact and cumulative harm makes a difference between winning a suit and losing it. For that reason, a prospective plaintiff will try to obtain such evidence even when she can minimize her damage by taking a different action. As we already explained, this preference is inelastic: the size of the damage that a prospective plaintiff stands to incur will not affect it (save for cases in which the wrongdoer might be insolvent and where money does not substitute for the plaintiff's harm).

The aforementioned preference will be exercised not only by property owners who face an environmental hazard or other nuisance, but also by owners encountering an imminent or ongoing trespass. Those owners have a strong incentive to allow the trespasser to enter their property and even cause some damage to that property and its fixtures. Allowing the trespasser to commit those wrongs would generate evidence that will virtually guarantee the owner's success in a suit for injunction and damages. This strategy is particularly attractive in jurisdictions that allow aggrieved property owners to recover multiple damages from trespassers.[59] On the other hand, acting prematurely might result in a court decision that will deny the owner the desired relief, thereby wasting her litigation effort and expenses.

The legal system cannot undo the distortion caused by evidentiary motivations. Abolishing the proof-of-harm requirements is not an option. Doing so would undercut the accuracy of adjudicative decisions and clog courts' dockets with frivolous suits and defenses.[60] The consequent inefficacy of the adjudication system would erode individuals' incentives to comply with the law.[61]

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59 *See* Gideon Parchomovsky & Alex Stein, *Reconceptualizing Trespass*, 103 NW. U. L. REV. 1823, 1836 (2009) (outlining and explaining multiple-damage provisions as a remedy for trespass).

60 *See* STEIN, *supra* note 5, at 144-48.

61 *Id.*

Expanding the doctrines of comparative fault[62] and avoidable consequences[63] is not a viable alternative either. Presently, those doctrines preclude a tort victim from recovering compensation for self-inflicted damage—damage originating from the victim's own fault that merged with the wrongdoer's negligence.[64] The doctrines thus entitle the wrongdoer to pay only for the damage that she caused the victim, as opposed to the damage that the victim brought upon himself.[65] Neither of the two doctrines requires an innocent victim, who did nothing to damage himself, to fend off the consequences of the wrongdoer's action by inflicting upon himself a less substantial—and practically non-compensable—damage. Expansion of those doctrines into a general principle that requires victims to opt for a lesser evil would produce deleterious effects. As a threshold matter, allowing a wrongdoer to enlist the victim as his risk-management partner is patently anomalous. Wrongdoers should not be allowed to dictate to their victims what to do. Furthermore, the victim's universal duty to mitigate the effect of the wrongdoer's tort would dilute the deterrence of wrongdoers.

Prospective plaintiffs are not the only actors whose primary behavior is distorted by a quest for favorable evidence. Evidence-seeking also motivates prospective defendants to behave in a socially inefficient, but privately advantageous, fashion. Defensive medicine is probably the best example of such behavior. We mentioned this phenomenon in Part I and will now illustrate it in a way that highlights the functioning of custom evidence rules in medical malpractice litigation.

Consider a doctor who diagnosed a patient and determined that the patient must undergo urgent surgery. The doctor is confident about her diagnosis and estimates that no additional tests are necessary. Medical custom, however, advises doctors to run a series of expensive and time-consuming

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62 *See* DAN B. DOBBS, THE LAW OF TORTS § 202, at 509-10 (2000) (describing the prevalent understanding of the comparative fault doctrine as based on a "comparison of the unjustified risks taken by each [party]" when "[t]he only negligence to be compared is negligence that is a cause on fact and also a proximate cause in the sense that the harm caused was the kind of harm put at risk.").

63 *See* W. PAGE KEETON, ET AL., PROSSER AND KEETON ON TORTS §65, at 458 (5th ed. 1984) ("The rule of avoidable consequences comes into play after a legal wrong has occurred, but while some damages may still be averted, and bars recovery only for such damages.").

64 For analysis of this common denominator of the two doctrines, see DOBBS, *supra* note 62, §§ 203-205, at 510-17.

65 *Id.* § 204, at 511-14.

tests to confirm similar diagnoses. This custom is not compulsory: failure to follow it does not in itself constitute medical malpractice.[66] Yet, following the custom practically insulates doctors from suits for malpractice.[67] By running the customary tests, the doctor will generate evidence that will defeat any malpractice suit that might be filed by the patient if the surgery does not produce the desired result.[68] The doctor therefore prefers to run the tests and delay the surgery. Her self-serving evidence generating endeavor blocks primary activity that could benefit the patient and society at large.

Note that even if adjudicators were to stop using custom as the benchmark for assigning liability, it would not eliminate doctors' motivation to engage in defensive medicine in order to produce evidence that would help them defeat medical malpractice suit. Independently of the chosen liability standard, doctors will continue to generate evidence demonstrating that they went beyond the call of duty and took extra measures to protect the health of their patients. Hence, changing the legal standard will not remedy the problem.

C. Intellectual Property

For owners of intellectual property, the ability to obtain an injunction that fends off unauthorized users is economically vital.[69] An injunction enforces

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66 As a general rule, doctors must comply with the relevant medical customs and protocols: see Gideon Parchomovsky & Alex Stein, *Torts and Innovation*, 107 MICH. L. REV. 285, 300-03 (2008) (outlining and explaining the custom rules applicable in medical malpractice disputes). Failure to comply with those customs and protocols amounts to malpractice. But there are non-mandatory customs as well, and a doctor may deviate from any of them if she believes that the patient requires a different treatment or diagnostic procedure. These non-mandatory customs include protocols regarding the timing and frequency of physical and radiographic examinations that diagnose breast cancer. *See* Bradley C. Nahrstadt, *A Primer on Defending Breast Cancer Litigation*, 25 AM. J. TRIAL ADVOC. 451, 464 (2002).

67 *See Torts and Innovation*, *id.* at 301, and sources cited therein.

68 The doctor may act in the same way when her primary motivation is risk-aversion: *see infra* notes 102-106 and accompanying text.

69 *See* Henry E. Smith, *Intellectual Property as Property: Delineating Entitlements in Information*, 116 YALE L.J. 1742, 1781-82, 1784-86 (2007) (showing how an injunction-backed right to exclude facilitates efficient governance of intellectual property by its owner); *see also* Eric E. Williams, *Patent Reform: The Pharmaceutical Industry Prescription for Post-Grant Opposition and Remedies*, 90 J. PAT. & TRADEMARK OFF. SOC'Y 354, 365 (2008) (attesting that "injunctions are vital to

the owner's right to exclude others from any use of her patent, copyright or trademark to which she did not agree.[70] The availability of this remedy also forces potential users to negotiate the terms of use with the owner and pay her the price she wishes to charge.[71] In addition, the possibility of obtaining injunctive relief confers upon the owner the power to veto undesired transactions.[72] Finally, a timely injunction saves the owner the trouble of proving her damage in court.[73]

However, an aggrieved owner of intellectual property is not entitled to a permanent injunction as a matter of course.[74] To obtain this remedy, an owner must prove that she faces irreparable harm that cannot be adequately remedied by monetary compensation[75] and that the hardship she would suffer, if not granted the injunction, outweighs the inconvenience that the injunction would cause the defendant.[76] Moreover, courts are also instructed not to issue injunctions that disserve the public interest.[77]

This discretionary formula is not as abstract as it appears to be. Federal courts have developed case-law that instructs adjudicators on how to apply the formula.[78] Specifically, the Federal Circuit had established a

innovative drug companies [because] [w]ithout the power of injunctions, they would not be able to prevent a generic drug company from placing inexpensive copies of medicine in the marketplace.").

70 *See* ROBERT P. MERGES, PETER S. MENELL & MARK A. LEMLEY, INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE 13 (rev. 4th ed. 2007).

71 *See, e.g.*, Marc Morgan, *Stop Looking under the Bridge for Imaginary Creatures: A Comment Examining Who Really Deserves the Title Patent Troll*, 17 FED. CIRCUIT B.J. 165, 175 (2007) ("The threat of an injunction is an important tool to motivate would-be patent squatters to negotiate a license or settle patent infringement litigation.").

72 *See* Dawson Chemical Co. v. Rohm and Haas Co., 448 U.S. 176, 215 (1980) (explaining that "the essence of a patent grant is the right to exclude others from profiting by the patented invention" and that "compulsory licensing is a rarity in our patent system").

73 *See* MERGES, ET AL., *supra* note 70, at 336 (noting valuation problems as justifying issuance of injunctions in patent cases).

74 *See* eBay Inc. v. Mercexchange, 547 U.S. 388, 392-93 (2006) (refusing to set up categorical rules with respect to injunctions in patent and copyright infringement cases and rejecting "invitations to replace traditional equitable considerations with a rule that an injunction automatically follows a determination that a copyright [or a patent] has been infringed.").

75 *Id.* at 392.

76 *Id.*

77 *Id.*

78 As Chief Justice Roberts explains in his concurrence in *eBay*, 547 U.S. at 394-95, the discretionary formula is not a "clean slate": the "long tradition of equity practice" that

presumptive rule that entitles a patent holder to obtain an injunction upon showing the defendant's continual infringement of her patent.[79] Other courts have adopted similar rules in the areas of copyright[80] and trademark.[81] Taken together, these rules form what might be called the "continual infringement" doctrine. This doctrine effectively entitles an aggrieved owner of intellectual property to enjoin the continual infringer of her right. Courts will refuse to enjoin the infringer only when an established

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allowed patent holders to obtain injunctions that fend off infringers ought to be read into this formula. Justices Scalia, Ginsburg, Kennedy, Stevens, Souter, Breyer have agreed with this point. *See id*.

79 *See* Smith International, Inc. v. Hughes Tool Co., 718 F.2d 1573, 1581 (Fed. Cir. 1983), cert. denied, 464 U.S. 996 (1983) (footnote omitted) ("where validity and continuing infringement have been clearly established, as in this case, immediate irreparable harm is presumed"); Corning Glass Works v. U.S. Intern. Trade Com'n, 799 F.2d 1559, 1567 (Fed. Cir. 1986) (same); Acumed v. Stryker Corp., 551 F.3d 1323, 1330 (Fed. Cir. 2008) (attesting that, under the "balance of hardships" standard, it is proper for a court to ignore a patent infringer's expenditures on designing and marketing the infringing product); Windsurfing Int'l, Inc. v. AMF, Inc., 782 F.2d 995, 1003 n. 12 (Fed. Cir. 1986) ("One who elects to build a business on a product found to infringe cannot be heard to complain if an injunction against continuing infringement destroys the business so elected."); Broadcom Corp. V. Qualcomm Inc., 543 F.3d 683, 704 (Fed. Cir. 2008) (same).

80 *See, e.g.*, Bridgeport Music, Inc. v. Justin Combs Publishing, 507 F.3d 470, 492 (6th Cir. 2007) ("Not only is the issuance of a permanent injunction justified "[w]hen a copyright plaintiff has established a threat of continuing infringement, he is *entitled* to an injunction." (quoting Walt Disney Co. v. Powell, 897 F.2d 565, 567 (D.C. Cir.1990) (emphasis in original))); CBS Broadcasting, Inc. v. EchoStar Communications Corp., 450 F.3d 505, 517 (11th Cir. 2006) ("Under the Copyright Act, however, a plaintiff need not show irreparable harm in order to obtain a permanent injunction, so long as there is *past infringement and a likelihood of future infringement*." (citing Pac. & S. Co. v. Duncan, 744 F.2d 1490, 1499 (11th Cir.1984))) (emphasis added). *See also* Apple Inc. v. Psystar Corp., --- F.Supp.2d ----, 2009 WL 3112080 (N.D. Cal. 2009) (holding, pursuant to *eBay*, that "Other than for trademark infringement claims, there is no presumption of irreparable harm with respect to a permanent injunction" but observing that although "irreparable harm may not be presumed, … in run-of-the-mill copyright litigation, such proof should not be difficult to establish." (quoting MGM Studios, Inc. v. Grokster, Ltd., 518 F.Supp.2d 1197, 1215 (C.D. Cal. 2007)))

81 *See, e.g.*, Century 21 Real Estate Corp. v. Sandlin, 846 F.2d 1175, 1180 (9th Cir. 1988) ("Injunctive relief is the remedy of choice for trademark and unfair competition cases, since there is no adequate remedy at law for the injury caused by a defendant's continuing infringement."); *see also* David H. Bernstein & Andrew Gilden, *No Trolls Barred: Trademark Injunctions After* eBay, 99 TRADEMARK REP. 1037, 1053-73 (2009) (discussing implications of *eBay* on trademark law and arguing that the practice of remedying trademark violations with injunctions should continue)

public policy favors a different result[82] and in cases in which the owner's inequitable conduct made her ineligible for the injunctive relief.[83] Under such special circumstances, the owner will suffice herself with monetary relief.[84]

The "continual infringement" doctrine makes perfect sense. The legal system cannot lightly grant property-rule protection to a patent, a copyright or a trademark. Such protection imposes substantial restrictions on third parties and allows the holder of an intellectual property right to engage in socially inefficient rent-seeking and holdouts.[85] As many scholars have pointed out, too much intellectual property protection may work to society's detriment.[86] For these reasons, not every violation of an

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82 *eBay*, 547 U.S. at 392.

83 *See* Robert P. Merges & Jeffrey M. Kuhn, *An Estoppel Doctrine for Patented Standards*, 97 CAL. L. REV. 1, 31-33 (2009) (explaining equitable grounds for denying injunctions in patent cases and arguing for removal of injunctive protection from technical standards in software and other network industries).

84 *See* Merges &. Kuhn, *id*. at 32-33.

85 *See* Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCIENCE 698 (1998); Michael A. Heller, THE GRIDLOCK ECONOMY: HOW TOO MUCH OWNERSHIP WRECKS MARKETS, STOPS INNOVATION, AND COSTS LIVES 1-22 (2008); *see also* Oren Bar-Gill & Gideon Parchomovsky, *A Marketplace for Ideas*, 84 TEX. L. REV. 395, 412-17 (2005) (discussing liability rule treatment for IP rights); Daniel A. Crane, *Intellectual Liability*, 88 TEX. L. REV. 253 (2009) (analyzing the ongoing depropertization of intellectual property rights that reduces inefficient rent-seeking and holdouts).

86 For criticism of the excessive protection of patents, see Heller & Eisenberg, *id*; Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 863-66 (1990); Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 J. ECON. PERSP. 29, 30-32 (1991); Alfred B. Engelberg, *Special Patent Provisions for Pharmaceuticals: Have They Outlived Their Usefulness?: A Political, Legislative and Legal History of U.S. Law and Observations for the Future*, 39 IDEA 389, 419-25 (1999); Michael A. Heller, *The Dynamic Analytics of Property Law*, 2 THEORETICAL INQUIRIES L. 79, 87-89 (2001); Mark A. Lemley & Kimberly A. Moore, *Ending Abuse of Patent Continuations*, 84 B.U. L. REV. 63 (2004). For criticism of the socially unnecessary protection of trademarks, see Mark P. McKenna, *Testing Modern Trademark Law's Theory of Harm*, 95 IOWA L. REV. 63, 66 (2009) (attesting that "Modern scholarship takes a decidedly negative view of the scope of trademark protection" and citing numerous scholars); Mark A. Lemley & Mark McKenna, *Irrelevant Confusion*, 62 STAN. L. REV. 413, 414 (2010) (observing that "trademark law has taken the concept of confusion too far."); Rochelle Cooper Dreyfuss, *Expressive Genericity: Trademarks as Language in the Pepsi Generation*, 65 NOTRE DAME L. REV. 397, 397-98 (1990) (criticizing excessive trademark protection for restricting speech). For criticism of copyright's overbreadth, see NEIL WEINSTOCK NETANEL, COPYRIGHT'S PARADOX 54–80 (2008) (discussing

intellectual property right should be met with a permanent injunction. Rather, the remedy should be reserved to those cases where an infringement constitutes a serious violation of the owner's entitlement and has no redeeming social value. The "continual infringement" requirement serves as a useful proxy of the first element: continual or ongoing infringements usually constitute serious incursions into the owner's domain of protected rights.

The insistence on continual infringement comes at a price, however. It has the obvious side-effect of incentivizing intellectual property owners to generate evidence of continual infringement. As a consequence, owners of patents, copyrights and trademarks may often decide to sit idly and allow multiple infringements of their rights to occur. Such behavior would be socially inefficient when the owner can protect her intellectual property rights at a lower cost. For example, resources could be saved if rights-holders were to sue infringers right away upon discovering the first instance of infringement. Yet, when an owner perceives a private benefit from obtaining an injunction, she is likely to choose to delay her suit until repeated infringement can be proven by a preponderance of the evidence. Accordingly, in cases in which the owner can choose between taking legal action against an infringer upon detecting the first infringement or delay the lawsuit until multiple infringements occur, she may often choose to do the latter.[87] Hence, under extant law, the owner has a perverse incentive to under-protect her intellectual property and even set traps for unwary infringers.

To illustrate, consider the following example. Assume that *MegaPharma* holds a patent on a drug for treatment of cholesterol problems. *MegaPharma* gets wind of that fact that its much smaller rival,

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"copyright's ungainly expansion"); Jessica Litman, *Billowing White Goo*, 31 COLUM. J.L. & ARTS 587, 587 (2008) (attesting that rights granted by copyright law underwent extraordinary expansion over the past fifty years); LAWRENCE LESSIG, THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD (2001); SIVA VAIDHYANATHAN, COPYRIGHTS AND COPYWRONGS: THE RISE OF INTELLECTUAL PROPERTY AND HOW IT THREATENS CREATIVITY (2001); *see also* Gideon Parchomovsky & Alex Stein, *Originality*, 95 VA. L. REV. 1505, 1509-16 (2009).

87 Naturally, other considerations may affect the choice in this case. Chief among them is solvency, or lack thereof. Specifically, if a rights-holder estimates that the infringer does not have sufficient financial resources to pay for the harm he caused, the rights-holder may decide to pursue legal action immediately, even if doing so jeopardizes the injunction.

NanoPharma, is about to launch its own medication for treating cholesterol problems. *MegaPharma* knows from limited samples distributed by *NanoPharma* that its new medication infringes upon *MegaPharma*'s vaunted patent. *MegaPharma* can bring an infringement suit right away or it can wait until its rival sinks significant cost in building a new plant and establishing a distribution channel and then sue. Taking the former option represents a dramatic cost-saving over the latter. Yet, the latter represents a much better chance of obtaining an injunction and for this reason may be chosen by *MegaPharma*.[88]

III. IMPLICATIONS FOR SOCIAL WELFARE

Our discussion, thus far, has demonstrated how evidence-generating conduct distorts primary behavior. We have also demonstrated that this distortionary effect is robust and pervasive. Finally, we have shown that the legal system cannot eliminate this effect by modifying existing evidentiary and substantive rules since changing the design of the rules would undercut the system's ability to advance the important goals of deterrence and fairness. The legal system cannot replace those rules with a lawless vacuum: it can only substitute one evidentiary or substantive rule by a different rule. The necessity of having *some* evidentiary and substantive rules makes it impossible for the legal system to get rid of the evidence-seeking incentives that motivate individuals to act against societal interest. No matter what the system's rules are, a private actor's quest for favorable evidence will often be misaligned with the social optimum.

Yet, the effect of evidence seeking is not as bad as it appears at first glance. A person's self-interested quest for favorable evidence has an upside that cannot be ignored. Evidence generated by self-interested parties does not merely help them prove their case in court, but also helps judges and juries resolve conflicts more accurately and expediently. As we will show, in some cases—such as accidents—the beneficial effect of evidence-

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88 *NanoPharma* might argue that *MegaPharma* behaved inequitably, but it will fail to provide evidence proving this accusation. Moreover, this accusation would also fail on the merits because *MegaPharma* did nothing inequitable: *see* Pharmacia Corp. v. Par Pharm., Inc., 417 F.3d 1369, 1373 (Fed. Cir. 2005) ("inequitable conduct includes affirmative misrepresentation of a material fact, failure to disclose material information, or submission of false material information, coupled with an intent to deceive." (quoting Molins PLC v. Textron, Inc., 48 F.3d 1172, 1178 (Fed. Cir. 1995))).

generating activities on court proceedings may outweigh their distortionary effect on primary behavior. In other instances—such as defensive medicine—the distortion of primary behavior is so costly that the improvement in judicial accuracy will fall way short of offsetting that cost.

To fully understand the welfare effects of evidence-generating activities, one needs to return to the classic work of Guido Calabresi in the area of tort law. In his seminal book, *The Costs of Accidents*,[89], Calabresi famously distinguished among three types of social cost: "primary costs" that aggregate the cost of accidents and accident-avoidance expenses;[90] "secondary costs" that represent the distributional effects of the primary-cost bearing upon those who bear those costs under applicable legal rules;[91] and "tertiary costs" that encompass the costs of adjudicating disputes over the allocation of primary and secondary costs.[92] In his framework, an economically minded lawmaker must set up rules that minimize not only the primary costs of accidents, but also the secondary and tertiary costs, as a total sum.[93] Calabresi openly admitted that this goal is easier to formulate than accomplish, but the lawmaker has no better option.[94]

Although Calabresi focused on accidents,[95] his framework applies to all potentially harmful activities,[96] with the primary costs consisting of the cost of harm and the harm-prevention expenses; the secondary costs combining the welfare effects of the rules that allocate the cost of already inflicted harm; and the tertiary costs being the expenditures associated with the legal proceedings necessary to identify the bearers of the primary and the secondary costs.

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89 *See* CALABRESI, *supra* note 13, at 28, 225-26, 250-59.

90 *Id.* at 26-27.

91 *Id.* at 27-28.

92 *Id.* at 28.

93 *Id.* at 26-31.

94 As CALABRESI, *id.* at 234-35, observed, "[A]s soon as we abandon the hope of having a perfect world in which accident costs could be so particularized that general deterrence could infallibly price the acts or activities causing accidents out of the market, or specific deterrence could prohibit them with complete success, we necessarily move into a world where mixed approaches will prevail. The all-important question that remains, however, is which mixture accomplishes our mixed aims, not perfectly—as that is impossible—but best."

95 *Id.* at 1-10.

96 For a recent statement of this generalist view, see Jonathan T. Molot, *A Market in Litigation Risk*, 76 U. CHI. L. REV. 367, 373-75 (2009).

Subsequent theorists have extensively analyzed Calabresi's primary and secondary costs.[97] Much less attention has been given to tertiary costs, however, perhaps because of their place in the cost hierarchy. Indeed, Calabresi himself underscored the significance of tertiary costs, explaining that he called them "tertiary" for a purely technical reason:[98] they pay for the measures aimed at achieving primary and secondary cost reduction.[99] Making those measures cost-effective is of paramount importance to the legal system. This overarching efficiency goal, explained Calabresi, "in a very real sense … comes first" because "[i]t tells us to question constantly whether an attempt to reduce accident costs, either by reducing accidents themselves or by reducing their secondary effects, costs more than it saves."[100]

The addition of tertiary costs to our analysis suggests that evidence-generating activities may not be as socially harmful as they appear at first sight. To see why, return to our introductory example that involves an encounter between Andy's and Bob's cars. Assume, hypothetically, that Andy swerves to the ditch to avoid collision and subsequently sues Bob for the $1,000 damage to his car. Bob for his part, will deny any responsibility for Andy's damage and claim that he did not enter Andy's lane or jeopardize him in any other way. Bob's denial makes the court's factfinding task complicated, uncertain and, above all, expensive. In fact, if Andy cannot produce reliable witnesses to support his case, it is likely that the court will rule in Bob's favor, notwithstanding his responsibility for Andy's damage.

By contrast, in our original scenario in which Andy allows Bob's car collide into his, the court will have no difficulty finding Bob responsible for the accident. Indeed, the collision setup makes the court's job so straightforward that Bob would hardly want to expend time and money on litigating the case. Instead, his optimal response would be to admit responsibility and offer Andy a suitable settlement. Consequently, the legal system (and society at large) will be spared the cost of resolving the dispute between Andy and Bob. Even if Bob decides to litigate for some reason, a

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97 *See, e.g.*, *Symposium*, Calabresi's The Costs of Accidents: *A Generation of Impact on Law and Scholarship*, 64 MD. L. REV. 1-754 (2005).

98 *See* CALABRESI, *supra* note 13, at 28.

99 *Id.*

100 *Id.*

judge or a jury will have no problem establishing Bob's liability and will do so at a very low cost.

Admittedly, the savings in adjudicative expenses come at a price: the occurrence of an avoidable collision. Andy's decision to allow the collision produced an unnecessary loss of $7,000 (consisting of the $3,000 damage to Andy's car and the $4,000 damage to Bob's car). If Andy were to swerve to the ditch, he could save society $6,000 in car damages, but given the beneficial effect of the collision on factfinding, was swerving the socially optimal response in this case?

Probably not. The difference in litigation costs in the two scenarios—swerving to the ditch, on the one hand, and allowing the collision, on the other hand—will likely be well above $6,000. If so, Andy's ill-motivated choice to allow collision was welfare-enhancing after all. Counterintuitively, perhaps, if society could somehow force Andy to swerve into the ditch, it would have led to a both unfair and inefficient result. Devising a legal rule that would force Andy to minimize the harm from the accident would sacrifice not only Andy's right to receive legal redress, but also society's interest in deterring Bob and other reckless drivers. As a society, we would not want let drivers like Bob go scot-free. Indeed, we have strong efficiency and justice[101] reasons to allow Andy—and perhaps even encourage him—to secure the strongest possible evidence against Bob.

Economic evaluation of evidence-generating activities must thus consider not only the distortion of the actor's primary behavior, but also the savings in court proceedings. It should be emphasized, however, that the savings from improved adjudicative proceedings will not always suffice to offset the waste on the primary behavior level. Indeed, in some instances, the distortionary effect of evidence-generating conduct is so pervasive that it dwarfs the conduct's benefit for judges and juries.

Consider the case of defensive medicine. Measures adopted by hospitals and individual doctors in order to fend off potential lawsuits from patients

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[101] *See, e.g.*, Ernest J. Weinrib, *Toward a Moral Theory of Negligence Law*, 2 L. & PHIL. 37, 38 (1983) (explaining corrective justice as a system that "considers the position of the parties anterior to the transaction as equal, and it restores this antecedent equality by transferring resources from [the wrongdoer] to [the victim] so that the gain realized by the former is used to make up the loss suffered by the latter.").

are wide-ranging and extremely costly. They include unnecessary diagnostic procedures, hospitalizations and referrals to specialty doctors, needless gathering of laboratory information, and even prescriptions for unneeded medications.[102] Some physicians adopt these measures because they are extremely risk-averse.[103] This attitude prompts them to address every possible risk for the patient, no matter how small it is.[104] Many other doctors, however, overtreat their patients for a different reason: they wish to generate evidence that will help them fend off liability should a malpractice suit be filed against them.[105] The social cost of defensive medicine is very high, with some studies estimating it in the tens of billions of dollars.[106]

The beneficial effect of those procedures on courts' decisions may be rather insignificant. Courts adjudicating medical malpractice suits can rely on expert witnesses and independent evidence. The additional evidence generated by hospitals and doctors through defensive practices may therefore have only a marginal effect on the accuracy of court decisions. Worse yet, there is reason to suspect that in many instances such evidence

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102 *See* David M. Studdert, *et al*., *Defensive Medicine among High-Risk Specialist Physicians in a Volatile Malpractice Environment*, 293 JAMA 2609 (2005). This article, *id.* at 2610, perceptively identifies those procedures as "assurance behavior"—a concept capturing the procedures' primary goal: to generate evidence that will defeat future suits for medical malpractice.

103 *See, e.g.*, James Gibson, *Doctrinal Feedback and (Un)Reasonable Care*, 94 VA. L. REV. 1641, 1644-45 (2008).

104 *Id*.

105 Professor James Gibson, *supra* note 103 at 1653-61, identifies the "doctrinal feedback" dynamic: overcautious doctors take excessive precautions against risk of suit and cyclically transform those precautions into legally binding customs.

106 Empirical studies estimate the overall cost of defensive medicine to be somewhere between $100 billion and $124 billion per annum across the United States. *See* MASSACHUSETTS MEDICAL SOCIETY, INVESTIGATION OF DEFENSIVE MEDICINE IN MASSACHUSETTS (2008), available at http://www.massmed.org/AM/Template.cfm?Section=Research_Reports_and_Studies2&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=27797 (referencing empirical studies estimating nation-wide annual cost of defensive medicine between $100 billion and $124 billion and calculating that Massachusetts alone spends about $1.4 billion on defensive medicine); *see also* Daniel Kessler & Mark McClellan, *Do Doctors Practice Defensive Medicine?*, 111 QUART. J. ECON. 353 (1996) (providing empirical proof of defensive medicine and its high cost: reduced expenditures on heart-disease prevention in states capping malpractice damages); Daniel Kessler & Mark McClellan, *Malpractice Law and Health Care Reform: Optimal Liability Policy in an Era of Managed Care*, 84 J. PUB. ECON. 175 (2002) (providing updated empirical data confirming the 1996 Kessler & McClellan study).

may lead the court astray since it is systematically slanted in favor of defendants.

In other areas, the overall effect of evidence-generating activities on social welfare is impossible to assess in the abstract. Take the case of intellectual property. The requirement of "continual infringement" certainly helps courts distinguish between different types of infringers and enables them to treat each infringer type differently. But does this mean that the overall effect of evidence-generating conduct in this context is positive? Not necessarily. The answer depends on how long intellectual property owners allow infringing activities to continue before they take legal action. Or, to put it more accurately, it depends on the amount of resources the infringer wasted until the infringement suit was finally brought. As we explained, intellectual property owners may be naturally inclined to let infringers incur unnecessarily high costs before they take action, either out of pure spite or in order to raise rivals' costs.[107] This is obviously a concern. In principle, courts can deter intellectual property owners from delaying suit for too long by using the doctrines of laches and estoppel to bar redress. In practice, however, courts rarely resort to laches,[108] while the estoppel doctrine does not penalize rights-holders for delaying suit.[109]

Our analysis of the welfare effect of evidence-generating strategies resorted to by law enforcement agents closely tracks our discussion of intellectual

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107 *See supra* notes 87-88 and accompanying text.

108 *See, e.g.*, Reno Air Racing Ass'n., Inc. v. McCord, 452 F.3d 1126, 1138 (9th Cir. 2006) ("Laches bars trademark infringement claims 'only where the trademark holder knowingly allowed the infringing mark to be used without objection for a lengthy period of time.'" (quoting Brookfield Commc'ns, Inc. v. West Coast Entm't Corp., 174 F.3d 1036, 1061 (9th Cir.1999))); *see also id.* at 1139 (attesting that courts proceed on a strong presumption that laches is inapplicable and that "[i]t is extremely rare for laches to be effectively invoked when a plaintiff has filed his action before limitations in an analogous action at law has run." (quoting Shouse v. Pierce County, 559 F.2d 1142, 1147 (9th Cir.1977))).

109 *See* Vanderlande Industries Nederland BV v. I.T.C., 366 F.3d 1311, 1323 (Fed. Cir. 2004) (reaffirming the well-settled rule that a patent infringer relying on the equitable estoppel defense must establish by a preponderance of the evidence that "(1) The [patentee], who usually must have knowledge of the true facts, communicate[d] something in a misleading way, either by words, conduct or silence. (2) The [accused infringer] relie[d] upon that communication. (3) And the [accused infringer] would be harmed materially if the [patentee] is later permitted to assert any claim inconsistent with his earlier conduct." (citing A.C. Aukerman Co. v. R.L. Chaides Constr. Co., 960 F.2d 1020, 1041 (Fed.Cir.1992))).

property law. Here too, the social cost of evidence-generating behavior depends on how far the police let a criminal perpetrator progress until they ultimately stop him. Yet, there are two important differences between the two areas. Unlike intellectual property owners, police have no inherent reason to delay their action in order to accumulate harm or let the wrongdoing repeat itself. They are therefore likely to act upon "probable cause," especially when they believe that they will gather enough evidence to support conviction. On the other hand, as agents acting to prevent harm to another person rather than to themselves, police also have no inherent reason to rush. There will be cases in which they will let the criminal perpetrator go on in order to obtain iron-clad evidence that will streamline their investigation and secure the perpetrator's conviction in court. This strategy engenders serious harm to society and the victim. Hence, it is difficult to say in the abstract whether the improvement in accuracy is greater than the harm.

At the end of the day, a full and accurate assessment of the welfare effect of evidence-generating endeavors requires one to compile a comprehensive list of the legal settings in which evidentiary motivations distort primary behavior, estimate the cost of those distortions and then compare this cost with the positive effect of the additional evidence on judicial processes in terms of both accuracy and expedience. Naturally, such an examination lies beyond the ken of this Essay. Carrying it out would necessitate massive empirical research. To date, there are no empirical data on the question, which is not surprising given the fact that the question has not been discussed in the theoretical literature. As theorists, we do not presume to offer a decisive answer to the social welfare question. Given the dearth—or, more precisely, complete absence of empirical data—we could only point to what we believe the effect of evidence-generating behavior will be in the context of the examples we discussed. We hope that future research will address the welfare question and evaluate the effects of evidence-generating behavior in other settings.

CONCLUSION

When perceived separately from each other, substantive and evidentiary rules make perfect economic sense. Substantive rules are the instruments by which the legal system tries to minimize the cost of harm and the harm-avoidance expenses as a total sum. Evidentiary rules are the system's tools for achieving accurate and expedient implementation of the substantive

rules.[110] The two tool-sets work in harmony when the system uses them in adjudicating allegations that a substantive rule was violated.

This ex post vision of evidentiary rules represents conventional wisdom that fails to account for the rules' ex ante effects. To comply with the evidentiary requirements for winning a case, an actor needs evidence that satisfies the requisite *substantive* and *evidentiary* conditions. The actor consequently has a strong incentive to generate evidence that can help her win her case in court. As we showed, this evidentiary motivation will often shape the actor's primary behavior. Instead of trying to avoid or minimize harm in the most cost-efficient way, actors will behave in a socially wasteful manner when doing so generates favorable evidence for them. Minimization of harm and evidence gathering are not overlapping endeavors. Often, these endeavors will conflict with one another. When they do, actors' desire to obtain favorable evidence will produce two conflicting effects on social welfare. On the one hand, it will distort primary behavior and lead to waste of resources. On the other hand, it will shorten the duration of trial and has the potential to improve the accuracy of adjudicative decisions. We showed that in some contexts, such as defensive medicine, the first effect will dominate, while in others, such as accidents, the second effect will be stronger. In still other contexts, such as nuisance suits, intellectual property litigation and criminal law, the net effect cannot be determined in the abstract and would require a case-by-case analysis.

In addition to the specific contributions to legal theory we made in this Essay, we would like to conclude by emphasizing one general point: any analysis of primary behavior that aspires to have policy implications must take full account of evidentiary considerations—both at the actors' and the courts' level. From this perspective, law and science share a commonality: the concept and the ever-present contingency of "proof" is a critical element in both areas. A complete understanding of legal mechanisms and their function cannot be achieved without integrating this element. Normative analyses of the law that overlook evidentiary requirements and incentives will invariably be incomplete and slanted.

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110 *See* STEIN, *supra* note 5, at 1-4, 12, 141-43.