The Blind Expert: A Litigant-Driven Solution to Bias and Error

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BLIND EXPERTISE

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The United States spends many billions of dollars on its system of civil litigation, and expert witnesses appear in a huge portion of cases. Yet litigants select and retain expert witnesses in ways that create the appearance of biased hired guns on both sides of every case, thereby depriving factfinders of a clear view of the facts. As a result, factfinders too often arrive at the wrong conclusions, thus undermining the deterrence and compensation functions of litigation. Court-appointment of experts has been widely proposed as a solution, yet it raises legitimate concerns about accuracy and has failed to gain traction in the American adversarial system.

Drawing on the notion of blind research from the sciences and on the concept of the veil of ignorance from political theory, this Article offers a novel and feasible reform that will make it rational for self-interested litigants to present unbiased experts to factfinders. The idea is to use an intermediary to select qualified experts who will render litigation opinions without knowledge of which party is asking. The result will be greater accuracy of both expert opinions and litigation outcomes compared to both the status quo and litigation with court-appointed experts. A game theory analysis shows that the current attorney work-product protections make this "blind expert" procedure a low-cost and no-risk rational strategy for litigants. This Article argues that blind expertise is a worthwhile reform for the system of medical malpractice liability in particular and may have wider application wherever laypersons must rely upon the advice of potentially biased experts.

Introduction

> No one will deny that the law should in some way effectively use expert knowledge wherever it will aid in settling disputes. The only question is as to how it can do so best.
>
>   —Learned Hand[1]

> As long as the reason of man continues fallible, and he is at liberty to exercise it, different opinions will be formed. As long as the connection subsists between his reason and his self-love, his opinions and his passions will have a reciprocal influence on each other; and the former will be objects to which the latter will attach themselves.
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>   —The Federalist[2]

The United States invests hundreds of billions of dollars in its system of civil litigation in an effort to redistribute wealth from those who act wrongfully to those who have been injured.[3] At its core, the litigation system has a sorting function, deciding in which cases to force such wealth transfers and in which cases to leave the parties as they are. Sometimes the system gets this choice right, and sometimes it fails. Such errors in litigation outcomes can harm blameless parties, fail to compensate deserving victims, and provide poor guidance for settlement negotiations in other cases. Thus, the fundamental question is: How can this expensive sorting procedure become more accurate and more efficient?

Litigants, attorneys, judges, and jurors are thought to be the main players in the civil litigation system. However, expert witnesses are also required in the vast majority of civil trials.[4] The expert witnesses are the ones who tell the factfinder whether a mistake has been made in medical treatment, whether a plaintiff is really injured, whether a

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[1] Learned Hand, *Historical and Practical Considerations Regarding Expert Testimony*, 15 Harv. L. Rev. 40, 40 (1901).

[2] The Federalist No. 10, at 41 (James Madison) (Terence Ball ed., 2003).

[3] *See* Lawrence J. McQuillan et al., Pac. Research Inst., Jackpot Justice: The True Cost of America's Tort System xii–xiii (2007), *available at* http://liberty .pacificresearch.org/doclib/20070327_Jackpot_Justice.pdf (estimating total cost, including social costs, of civil litigation at $865 billion, or 2.2% of GDP, in 2006); Towers Perrin, 2008 Update on U.S. Tort Cost Trends 3 (2008), http://www.towersperrin.com/tp/ getwebcachedoc?webc=USA/2008/200811/2008_tort_costs_trends.pdf (showing that U.S. tort system cost $252 billion in 2007). *But see* Ross Eisenbrey, *Tort Costs and the Economy: Myths, Exaggerations, and Propaganda* (Econ. Policy Inst., Briefing Paper No. 174, 2006), *available at* http://www.epi.org/publications/entry/bp174/ (criticizing Towers Perrin study); Economist's View: The Cost of the Tort System, http://economistsview.blogspot.com/2007/ 06/cost-of-tort-system.html (Mar. 27, 2007, 12:15 EST) (criticizing McQuillan study).

[4] *See* Samuel R. Gross, *Expert Evidence*, 1991 Wis. L. Rev. 1113, 1119 (stating that experts testified in 86% of civil trials in sample of California cases from 1985 and 1986). This Article focuses only on the civil context, but its concepts may be adaptable to the criminal and regulatory contexts as well.

drug is unreasonably dangerous, or whether a patent claim covers a disputed medical product.[5] As such, expert witnesses are unique among the players in litigation because they purport to know the answers to the scientific and technical questions at the core of each case. For that reason, expert witnesses are paid tens of thousands of dollars to reveal these facts to the factfinders.

In almost every case, the factfinder sees a "battle of the experts," each selected by, affiliated with, compensated by, and apparently biased toward a particular party. This structure reduces both the perceived and actual accuracy of the fact-finding process. Assuming there are real facts of the matter underlying each case, it is analytically true that this procedure drives the accuracy of litigation experts down to a bare fifty percent on questions that are binary. Thus, there can be little doubt that the judges and jurors who rely upon these experts receive poor guidance in resolving cases. As one scholar recently concluded: "The legal system and the scientific method . . . co-exist in a way that is really hard on truth."[6]

This problem not only undermines deterrence and compensation but also threatens the American jury system. The civil jury is considered "a basic and fundamental feature of our system of federal jurisprudence" and one that "should be jealously guarded by the courts."[7] Nonetheless, scholars credibly argue that litigation outcomes now lack legitimacy because the present system gives the laypeople who serve on juries such slight epistemic warrant for their judgments, which purport to resolve highly technical disputes between scientists.[8] This conflict shapes debates over policy reform—as some scholars tell us that "the United States [is] embroiled in its third major medical malpractice crisis in the past thirty years."[9] The jury is a handy scapegoat for

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[5] *Id.* at 1119 ("Half of the experts in our data were medical doctors, and an additional 9% were other medical professionals . . . ."); Adam Liptak, *Experts Hired To Shed Light Can Leave U.S. Courts in Dark*, N.Y. TIMES, Aug. 12, 2008, at A1 (reporting that medical and mental health experts were used in 42% of civil trials that used experts).

[6] Adam Liptak, *From One Footnote, a Debate Over the Tangles of Law, Science and Money*, N.Y. TIMES, Nov. 25, 2008, at A16 (quoting Professor William R. Freudenburg).

[7] Jacob v. New York City, 315 U.S. 752, 752–53 (1942).

[8] *See generally* Scott Brewer, *Scientific Expert Testimony and Intellectual Due Process*, *in* THE PHILOSOPHY OF EXPERTISE 111 (Evan Selinger & Robert P. Crease eds., 2006) (arguing that factfinders lack necessary scientific expertise, which leads to arbitrary and illegitimate judgments).

[9] William M. Sage & Rogan Kersh, *Introduction* to MEDICAL MALPRACTICE AND THE U.S. HEALTH CARE SYSTEM 1, 1 (William M. Sage & Rogan Kersh eds., 2006); *see also* Press Release, The White House, President Bush Calls for Medical Liability Reform (Jan. 26, 2004), *available at* http://georgewbush-whitehouse.archives.gov/news/releases/2004/01/print/20040126-3.html (calling for medical malpractice reforms). *But see generally* NEIL VIDMAR, MEDICAL MALPRACTICE AND THE AMERICAN JURY (1997) (arguing that juries are competent and that medical malpractice liability system is generally sound).

this crisis.[10] As long as it is positioned between hired-gun experts, the system of lay juries may be caught in the crossfire.

More profoundly, the way courts use experts contributes to public perceptions of science and truth. If every serious legal dispute devolves into a battle of hired-gun experts, the public may come to believe that "there is no objectively correct scientific truth, only partisan witnesses and the lawyers who retain them."[11] This brand of relativism, compounded by the mass media's reflexive notion that there are two equally valid sides to every story, could make it difficult to make informed and intelligent policy choices about a wide variety of questions, from climate change and school curricula to vaccinations and stem-cell research. Accordingly, the U.S. legal system needs a healthy and critical relationship with science and expertise.

Part I of this Article discusses the fundamental differences between the two prevailing systems of litigation. On one hand is the adversarial system used in the United States, where self-interested litigants invest in powerful statements of their own cases by searching for favorable experts and rebutting the witnesses offered by their adversaries. On the other hand is the inquisitorial system used in much of the rest of the world, in which the courts themselves appoint experts.[12] The inquisitorial system avoids certain biases, but it puts the evidence-production function in the hands of judges who have little incentive for thoroughness or error-correction.

In the United States, scholars have long pushed toward a more inquisitorial system for expertise, and these arguments have led to an explicit provision in Federal Rule of Evidence 706 allowing judges to appoint neutral experts.[13] Yet Rule 706 has failed to change practice, since it pushes against the deeply ingrained norms, roles, and incentive structures of the adversarial status quo.

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[10] *See, e.g.*, VIDMAR, *supra* note 9, at 3–6 (reviewing criticism of juries by American Medical Association and others); Peter Huber, *Safety and the Second Best: The Hazards of Public Risk Management in the Courts*, 85 COLUM. L. REV. 277, 319–20, 332–33 (1985) (arguing that juries are institutionally unable to make risk choices and that decisions should be made by regulatory agencies); Kimberly A. Moore, *Judges, Juries, and Patent Cases—An Empirical Peek Inside the Black Box*, 99 MICH. L. REV. 365, 370 (2000) ("[P]opular perceptions of juror incompetence and bias have caused commentators to argue that the role of the jury in patent litigation should be severely limited, and many alternatives have been proposed.").

[11] BRUCE D. SALES & DANIEL W. SHUMAN, EXPERTS IN COURT 144 (2005); *see also* John H. Langbein, *The German Advantage in Civil Procedure*, 52 U. CHI. L. REV. 823, 835–36 (1985) (describing "systematic distrust and devaluation of expertise" by American people).

[12] *See* Langbein, *supra* note 11, at 836–41 (using German procedural law to illustrate Continental approach to experts).

[13] FED. R. EVID. 706 ("The court . . . may appoint expert witnesses of its own selection.").

The dilemma remains unresolved. To date, the litigation system has not yet found a way to provide factfinders with reliable and unbiased expert signals while still leaving the development of cases in the hands of the self-interested litigants.

Part II shows how the dichotomy between the adversarial and inquisitorial systems can be bridged through a privately ordered solution to the public problem of inaccurate litigation outcomes and inflated costs. We need not sacrifice objectivity to preserve the best parts of the adversarial system. A method is available—one inspired by the idea that "justice is blind," by the Rawlsian "veil of ignorance,"[14] and by the gold standard of scientific research: the double-blind, randomized study.

A similar blind procedure can be employed in civil litigation. A litigant would request and pay for an expert evaluation of her case, and an accredited intermediary, interposed between the litigant and the expert, would perform a double-blinding function.

First, the intermediary would blind the litigant by selecting a qualified expert in a way that prevents the litigant from handpicking a favorable expert. Such mechanisms could include creating a pool of prequalified experts and randomly selecting one for each requesting litigant or having an agent of the intermediary handpick an expert without knowing the identity of the sponsor. Second, the intermediary would blind the expert, so the expert would render her opinions without knowledge of who is sponsoring the research or which outcome the sponsor prefers. The intermediary would assemble a dossier of the predicate facts of the case and send it and the litigation question to the chosen expert. The intermediary would compensate the expert regardless of the substance of her opinions. Though this procedure cannot guarantee truth, it does eliminate the litigant-induced selection, compensation, and affiliation biases that degrade the accuracy of litigation witnesses under the status quo. Nonetheless, the blind procedure is driven not by high-minded altruism but rather by each litigant's desire to win his case through the use of a more credible expert.

Importantly, the blind procedure leaves the strategic choices in the hands of litigants who have incentives to win, and the procedure allows litigants to decide whether to disclose a blind expert's opinion to the factfinder only *after* the litigant learns of the substance of that opinion. If a blind opinion is unfavorable, the litigant would be permitted to hide it (and the fact that he used the blind procedure at all) as attorney work-product. If an opinion is favorable and a litigant chooses to designate the expert for testimony, then waiver doctrine

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14 JOHN RAWLS, A THEORY OF JUSTICE 11 (1971).

would also require him to disclose all other blind opinions, which thereby prevents an iterative selection bias.

Part II also shows that even with such disclosure discretion, individual blind experts who testify would be more reliable than individual court-appointed experts and even more reliable than individual experts outside the litigation context. When both litigants in a case try the procedure, *two* experts will independently render opinions on the same case, and the procedure sends a signal to factfinders only when the two blind experts agree and one litigant discloses his favorable expert to the jury. An erroneous signal from a blind expert is thus exponentially less likely than from a single court-appointed expert. If, on the other hand, the two blind experts disagree, the jury will see neither or both of them and will thus be left in the same situation as the status quo. Thus, for truth, the blind procedure has little downside.

Part III shows that in the context of medical malpractice litigation, the use of the blind procedure can dramatically reduce erroneous litigation outcomes by resolving the epistemic deadlock that juries are currently stuck in, when given only hired-gun experts. The blind expert will instead tend to guide factfinders to the truth. Blind experts will have this salutary function even if one assumes that there will be a residual allegiance bias amongst physicians, since the *adversarial* use of the procedure tends to cancel erroneous opinions. Because the blind procedure promises to efficiently improve the accuracy of outcomes, it is a more attractive solution than other efforts for medical malpractice reform, such as arbitrary caps on damages or complicated alternative systems of adjudication.

Part IV argues that blind experts will be a rational and dominant strategy for litigants. Status quo disclosure rules allow each litigant to try the procedure without risk of an adverse opinion hurting their cases. Thus, after paying the transaction costs, the procedure can only help the litigant—by increasing his odds of winning the case if it goes to trial—unlike the double-edged sword of court-appointed experts. This logic sets up a prisoner's dilemma in which both litigants will try the procedure. Blind experts will also be a powerful tool for determining which cases to file in the first place and will help litigants settle more cases, saving litigation costs.

Part V argues that the blind procedure will be an efficient reform to civil litigation, even accounting for its costs, and may make *Daubert* screening nearly obsolete. This Part also addresses counterarguments, including concerns about indeterminate truth, logistics, and the limits of institutional progress. The Appendix offers a mathematical analysis.

This Article concludes that, at least in medical malpractice litigation—and likely in other contexts—the blind expert should become the new gold standard for expertise. Because it exploits longstanding adversarial norms and incentive structures—rather than trying to rebuild the American legal system from scratch—the blind expert is also a particularly pragmatic reform.

I
THE TRUTH-DEFICIT IN LITIGATION

This Part lays out the problem. First, it explains why factfinders need help finding the scientific and technical truths that are key questions in most cases and shows why and how litigants' seemingly biased experts fail to provide useful truth-signals to factfinders. It then argues that the traditional solutions of mandated disclosure, expert professionalism, and exclusion under *Daubert v. Merrell Dow Pharmaceuticals, Inc.*[15] are of limited benefit. The Part concludes by arguing that the potential solution of court-appointed expert witnesses is problematic and rarely used.

A. The Need for Truth-Signals

Both the procedure and substance of the American legal system are predicated on the assumption that, in any given case, there really is a fact of the matter. The elaborate procedures and evidentiary rules are designed "to the end that the truth may be ascertained and proceedings justly determined."[16] The function of the substantive law is to delineate which behaviors shall incur liability and which shall not. If the distinction had no basis in reality, the law would be for naught.

Although talk of "truth" can seem slippery, for present purposes let us adopt the common sense working presumptions of the legal system—for example, some plaintiffs really are injured (and others are not) and some defendants really did cause those injuries (and others did not).[17] Truth obtains when allegations are backed up by the real facts on the ground. Still, we need not assert that such truths are always simple, uncontestable, completely shorn from value judgments, or even directly observable in the world. Moreover, we can concede

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[15] 509 U.S. 579, 589 (1993) (holding that trial judge can exclude expert testimony for lack of reliability).

[16] FED. R. EVID. 102.

[17] Whether a given doctor did or did not "meet the standard of care" is a different sort of fact (one might call it a "social fact"), but the legal system still presumes that it is a question of fact and that the physician either did or did not meet that standard. *See infra* text accompanying notes 210–11 (discussing standard of care in medical malpractice litigation).

that in *some* situations, the law may be wrong in its presupposition that there is an exogenous truth to be found.[18] Rather than wading into the philosophical debates about competing notions of truth, however, this Article instead contributes to the debates about procedure, evidence, and expertise.[19]

It goes without saying that outcome accuracy is an important concept in litigation. Some suppose that the truth has intrinsic value for the legal system, just as it does in the sciences.[20] A reasonable degree of accuracy is also arguably necessary to make adjudication morally binding and legitimate.[21] Aside from any such intrinsic value, however, the legal system's truth-seeking function clearly has instrumental value. The substantive law exists to serve deterrence, compensation, and sometimes punishment; and the achievement of these purposes demands accuracy.

In particular, inaccuracy in litigation outcomes undermines deterrence by imposing liability on some reasonable conduct and by failing to impose liability on some unreasonable conduct.[22] The first problem incentivizes potential defendants to use costly measures to avoid liability, such as "defensive medicine," rather than simply practicing reasonably.[23] On the other hand, in 2000, the Institute of Medicine

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[18] Part V.B *infra* explores this complication in some detail.

[19] To the extent that a definition is necessary, let us adopt a long-run, pragmatic notion of truth, such as that offered by Charles S. Peirce: "The opinion which is fated to be ultimately agreed to by all who investigate, is what we mean by the truth . . . ." Charles Sanders Peirce, *How To Make Our Ideas Clear*, *in* Pragmatism Old and New: Selected Writings 127, 147 (Susan Haack & Robert Lane eds., 2006) (citation omitted); *see also* Susan Haack, *Of Truth, in Science and in Law*, 73 Brook. L. Rev. 985, 987–88 (2008) (offering "account of truth in the sciences" that "combine[s] a full acknowledgment of the fallibility and incompleteness of the scientific enterprise with a robustly objective conception of truth").

[20] *See* Haack, *supra* note 19, at 986 ("[T]ruth is surely *relevant* to legal proceedings, for we want, not simply resolutions, but *just* resolutions; and substantial justice requires factual truth."). *But see* Daniel E. Koshland, Jr., Editorial, *Scientific Evidence in Court*, 266 Science 1787 (1994) (arguing that truth-seeking function is not central to law).

[21] *See* Brewer, *supra* note 8, at 112–13 (arguing that factfinders' lack of necessary scientific expertise results in arbitrary and illegitimate judgments); Lawrence B. Solum, *Procedural Justice*, 78 S. Cal. L. Rev. 181, 190 (2004) (arguing that inaccurate outcomes can undermine legitimacy of judgments).

[22] *Compare* Louis Kaplow, *The Value of Accuracy in Adjudication: An Economic Analysis*, 23 J. Legal Stud. 307, 309–10 (1994) (arguing that it may be costly to improve accuracy but "greater accuracy is valuable only to the extent it involves dimensions about which individuals are informed at the time they act"), *with* Daniel R. Ortiz, *Neoactuarialism: Comment on Kaplow*, 23 J. Legal Stud. 403, 409 (1994) (arguing that accuracy can have value independent of one particular case by encouraging future actors to pursue more information).

[23] The actual amount of defensive medicine (and the costs thereof) is a subject of intense debate amongst empiricists. Part of the debate turns on a semantic question of what counts as defensive medicine. *See* David Klingman et al., *Measuring Defensive*

concluded that between 44,000 and 98,000 patients die every year in hospitals as the result of medical errors, ones that the medical malpractice liability system failed to deter.[24] Inaccuracy in resolving cases also fails to incentivize plaintiffs to file only meritorious suits in the first place, since even bad cases have some probability of being compensated. Moreover, to the extent that inaccuracy causes litigation outcomes to be less predictable, insurance costs go up. There are likely similar stories to be told in other areas of litigation.

Now, consider *how* this truth-seeking function is operationalized. In our legal system, "factfinders"—juries, judges, and, increasingly, arbitrators—decide whether to impose liability in each case, and we conduct trials to assist them in "the determination of truth."[25]

In the adversarial system, each of the litigants brings evidence to the factfinder in a dynamic that can be conceived of as a signaling game.[26] The word "signal" is appropriate because the factfinder is passive and alienated from the facts; it only experiences the truth as mediated by the images, words, and other evidence that the litigants and judge decide to provide. The factfinder decides which version of the case is most plausible and which judgment is most warranted by the signals it has received.

The vast majority (potentially upwards of 85%) of trials involve expert witnesses,[27] whose testimony is essential for resolving the scientific or technical disputes at the core of the case. The very idea of "expertise" is that, compared to laymen like juries and judges, some people are better equipped through "knowledge, skill, experience, training, or education"[28] to perceive the truth in their specialized domains.[29]

Outside the litigation setting, we laypersons really do expect experts to converge on the truth, and we rely upon them accordingly.

Medicine Using Clinical Scenario Surveys, 21 J. HEALTH POL. POL'Y & L. 185, 187–90 (1996) (describing four different types of practices that might be termed "defensive medicine").

[24] COMM. ON QUALITY OF HEALTH CARE IN AM., INST. OF MED., TO ERR IS HUMAN 1 (Linda T. Kohn et al. eds., 2000) [hereinafter IOM REPORT].

[25] Tehan v. United States, 382 U.S. 406, 416 (1966) (describing determination of truth as purpose of trials).

[26] *See* Roger G. Koppl et al., *Epistemics for Forensics*, 5 EPISTEME 141, 145 (2008) (describing experts as senders and juries as receivers of messages). The sense of "signal" that I use is distinct from, and somewhat broader than, the way the term is used in the economics literature. For a review of the meaning of signals in economics, see generally Michael Spence, *Signaling in Retrospect and the Informational Structure of Markets*, 92 AM. ECON. REV. 434 (2002).

[27] *See supra* note 4.

[28] FED. R. EVID. 702.

[29] *Cf.* Brewer, *supra* note 8, at 115 (describing this relationship as "practical epistemic deference").

We expect that if we randomly selected and consulted one or more qualified experts, they would be correct more often than not and more often than we laypersons would be. That is why we rely upon them to cure our diseases, protect our drinking water, and design our airplanes. This assumption—that unbiased experts will tend to converge on the truth more often than those lacking expertise—is a central assumption of the modern world, a central assumption of the legal system, and a central assumption of this Article.[30]

B. *Litigants' Failure To Provide Reliable Signals*

Despite the legal system's aspiration toward truth, litigants often fail to provide truth-signals to factfinders. Instead, litigants reduce the accuracy of their expert witnesses to that of coin-flippers. Through selection, affiliation, and compensation biases, litigants make experts *more favorable* but *less accurate* compared to their base rates of accuracy in the real world. I consider each bias in turn.

1. *Selection*

First, with only slight hyperbole, Judge Jack Weinstein has observed, "An expert can be found to testify to the truth of almost any factual theory, no matter how frivolous."[31] Indeed, each litigant can shop around for favorable expert opinions.[32] Litigants use many devices to cherry-pick experts including litigation history, word-of-mouth, and published papers. If a handpicked expert turns out to be unfavorable, the litigant simply picks again.

Thus, in litigation, there tends to be one expert on each side of almost every technical issue, but in the real world, qualified experts are rarely so evenly split. As one jurist has noted, "Apart from any question of dishonesty, the adversarial system is . . . calculated to bring forward unrepresentative opinions in cases where a range of

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[30] For example, we expect that if we consulted all the qualified experts about a given question—say whether a certain medical procedure should be performed in a given context—and asked them to score the case from zero (definitely should not) to five (definitely should), a (perhaps truncated) bell curve would emerge, with a peak around the "true" answer. Nonetheless, it is worth noting that there is no quick way to prove this assumption empirically, since we have no access to highly technical truths except through experts. The proof must be longitudinal and pragmatic, comparing the success of laypersons with and without experts.

[31] Jack B. Weinstein, *Improving Expert Testimony*, 20 U. Rich. L. Rev. 473, 482 (1986).

[32] *See* David E. Bernstein, *Expert Witnesses, Adversarial Bias, and the (Partial) Failure of the* Daubert *Revolution*, 93 Iowa L. Rev. 451, 455 (2008) (distinguishing ordinary witnesses from expert witnesses on basis that "attorneys can shop from an almost unlimited pool of expert witnesses").

opinions exists."[33] Of course, this selection strategy depends on the pool of qualified experts in a given field containing at least one who is willing to render a favorable opinion for the litigant. But once that expert is found and retained, he is transformed from being perhaps 1 in 1000 outside the courtroom to 1 in 2 inside the courtroom. This problem of unrepresentative observations is called selection bias.

2. *Affiliation*

Affiliation bias arises when the expert interacts with the litigant before and during the process of rendering her opinions. The litigant's attorney talks with the potential expert, buys her meals, suggests hypotheses, provides data and even scientific literature, proposes methods and criteria, coaches her on language to use, and even edits her final report.[34] A litigant prepares an expert witness, "push[ing] [her] to identify with the lawyers on her side and to become a partisan member of the litigation team."[35]

John Langbein has explained that "those of us who serve as expert witnesses are known as 'saxophones[,]' . . . a musical instrument on which the lawyer sounds the desired notes."[36] This is not the worst of the epithets.[37] Courts sometimes note extreme situations in which an expert has altogether "cast aside his scholar's mantle and [become] a shill" for the party that retained him.[38] But these situations are not outliers in an otherwise healthy system: In one study, both federal judges and attorneys cited "experts abandon[ing] objectivity and becom[ing] advocates for the side that hired them" as the most frequent problem with expert testimony.[39]

Lawyers routinely exploit various psychological heuristics to bias their experts. One such heuristic is the anchor-and-adjust tactic, in which a person faced with a question starts not with a blank slate, but instead with an initial value or hypothesis that biases later, better-informed estimates.[40] A hypothesis suggested by a litigant—for

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[33] *Id.* at 454 n.11 (quoting Justice H.D. Sperling of Supreme Court of New South Wales).

[34] *See* Gross, *supra* note 4, at 1139 (discussing cooperative relationship developed between attorneys and experts while preparing testimony).

[35] *Id.*

[36] Langbein, *supra* note 11, at 835.

[37] *See* Gross, *supra* note 4, at 1115 (reporting derogatory sentiments of both lawyers and other professionals toward expert witnesses).

[38] Mid-State Fertilizer Co. v. Exch. Nat'l Bank of Chi., 877 F.2d 1333, 1340 (7th Cir. 1989) (Easterbrook, J.).

[39] MOLLY TREADWAY JOHNSON ET AL., FED. JUDICIAL CTR., EXPERT TESTIMONY IN FEDERAL CIVIL TRIALS: A PRELIMINARY ANALYSIS 6 tbl.2 (2000).

[40] *See generally* Gretchen B. Chapman & Eric J. Johnson, *Incorporating the Irrelevant: Anchors in Judgments of Belief and Value*, *in* HEURISTICS AND BIASES: THE PSYCHOLOGY

example, a low value for damages—then becomes a "cognitive anchor" for the expert. Even if people have contrary observations, they often fail to sufficiently adjust away from the anchor. Experts, like people in general, are susceptible to this bias. In one empirical study of the anchoring heuristic, "a student from a totally unrelated field gave an estimate about how large the solution to a problem should be to an expert faced with deciding the problem."[41] Even "[t]his information, received from a low-credibility source, was still sufficient to create an anchor impacting the estimates made by the experts."[42]

Similar phenomena, called "observer effects," have been extensively documented in the field of forensic science, in experiments ranging from visual hair comparison to handwriting and fingerprint identification.[43] In each area, when scientists were given extraneous information such as a preferred outcome, the effect of that information outweighed the effect of contrary technical information.[44]

Similarly, "confirmatory bias" causes experts to "ignore information that does not support their hypotheses, interpret ambiguous information as supporting their hypotheses, or . . . not consider whether information supports alternative hypotheses."[45] Indeed, scholars have documented the problem of people tending to "see what they expect to see" across many fields of expertise, from astronomy and economics to medicine and dispute resolution.[46]

OF INTUITIVE JUDGMENT 120, 120–21 (Thomas Gilovich, Dale Griffin & Daniel Kahneman eds., 2002) (reviewing studies confirming anchoring effect); Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, 185 SCIENCE 1124, 1128–30 (1974) (describing research on anchoring effect).

[41] D. Michael Risinger et al., *The* Daubert/Kumho *Implications of Observer Effects in Forensic Science: Hidden Problems of Expectation and Suggestion*, 90 CAL. L. REV. 1, 18 (2002) (describing work by Birte Englich and Thomas Mussweiler); *see also* Birte Englich et al., *Playing Dice with Criminal Sentences: The Influence of Irrelevant Anchors on Experts' Judicial Decision Making*, 32 PERSONALITY & SOC. PSYCHOL. BULL. 188, 197 (2006) (concluding that "influence of irrelevant anchors on sentencing decisions did not depend on judges' experience and expertise").

[42] Risinger, *supra* note 41, at 18.

[43] *See generally* D. Michael Risinger, *The NAS/NRC Report on Forensic Science: A Glass Nine-Tenths Full (This Is About the Other Tenth)*, 50 JURIMETRICS J. 21 (2009) (forthcoming 2010) (manuscript at 7–11), *available at* http://ssrn.com/abstract=1437276 (summarizing work in this field).

[44] *Id.*

[45] HOWARD N. GARB, STUDYING THE CLINICIAN 183, 182–97 (1998) (discussing various cognitive heuristics, biases, and knowledge structures of clinicians).

[46] *See, e.g.*, Jane Campbell Moriarty & Michael J. Saks, *Forensic Science: Grand Goals, Tragic Flaws, and Judicial Gatekeeping*, 44 JUDGES' J. 16, 27 (2005) (reviewing this evidence); *see also* Troyen A. Brennan, *Helping Courts with Toxic Torts: Some Proposals Regarding Alternative Methods for Presenting and Assessing Scientific Evidence in Common Law Courts*, 51 U. PITT. L. REV. 1, 4 (1989) ("Judges fear that juries can be

In one well-known study, researchers assigned subjects as negotiators in a dispute, asked the subjects to assess the "fair" value of the case they were assigned, and incentivized the subjects for accuracy.[47] One group of subjects was asked to make this value assessment before being assigned to a side; the other made the value assessment after being assigned.[48] The affiliation skewed the assessments of fairness made by those assigned to a side, even though they had incentives for accuracy.[49] Of course, in the real world, expert witnesses are not incentivized for accuracy, so the problem is exacerbated.

3.   *Compensation*

A third vector that degrades truth-signals is compensation bias. Writing about expert witnesses in 1901, Learned Hand had already concluded that "[e]nough has been said elsewhere as to the natural bias of one called in such matters to represent a single side and liberally paid to defend it."[50] Upton Sinclair put the general principle more colorfully: "It is difficult to get a man to understand something, when his salary depends upon his not understanding it!"[51]

Unsurprisingly, empirical research has shown that contingent fee arrangements create bias.[52] Of course, expert witnesses' fees are not blatantly contingent; litigants instead pay experts on an hourly basis.[53] Nonetheless, this fee structure induces experts toward favorable opin-

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misled by highly paid experts who will find at least some support in the voluminous scientific literature for any position, even when that position is repudiated by the majority of scientists."); Kenton K. Yee, *Dueling Experts and Imperfect Verification*, 28 INT'L REV. L. & ECON. 246, 246 (2008) ("Given [economics experts'] freedom to cherry pick from a continuum of choices within a broad gray line, it is easy for experts to proffer partisan testimony without being dishonest.").

[47] Linda Babcock et al., *Biased Judgments of Fairness in Bargaining*, 85 AM. ECON. REV. 1337, 1338–39 (1995).

[48] *Id.* at 1339.

[49] *Id.* at 1340.

[50] Hand, *supra* note 1, at 53; *see also* Abinger v. Ashton, (1873) 17 L.R.Eq. 358, 373–74 (U.K.) (describing distrust of expert evidence because of natural bias of expert toward employer).

[51] UPTON SINCLAIR, I, CANDIDATE FOR GOVERNOR: AND HOW I GOT LICKED 109 (Univ. Cal. Press 1994) (1935).

[52] *See, e.g.*, Daylian M. Cain et al., *The Dirt on Coming Clean: Perverse Effects of Disclosing Conflicts of Interest*, 34 J. LEGAL STUD. 1, 9, 14 (2005) (describing biasing effect of incentives when expert is paid according to value of factfinder's estimates). The Cain et al. study is discussed in greater detail in text accompanying notes 72 to 77 *infra*.

[53] Still, some experts provide free or reduced-cost initial consultations ("you only pay if you like what I say"). *See, e.g.*, MedWitness, Ltd., Fees, http://www.medwitness.com/fees .html (last visited Oct. 8, 2008). This is similar to a contingency fee arrangement in that the expert is only hired (and is therefore only paid) if he gives a favorable opinion.

ions since anything else would result in termination from the given case and may preclude future work.[54]

The biasing effect of compensation is also present in sponsored medical research. Scholars conclude that "[n]umerous systematic reviews and meta-analyses indicate that industry-funded studies are more likely than other studies to favor novel interventions."[55] It is not usually the case that compensation bias causes experts to fabricate favorable opinions from whole cloth,[56] but it can nudge them to shade their views and "draw more favorable qualitative conclusions"[57] from their findings than they otherwise would.

In the litigation context, experimental studies have shown that witnesses interviewed by partisan attorneys prior to testifying tend to deliver more biased testimony than those interviewed by nonpartisan attorneys.[58] Indeed, experiments suggest that the opinions of mental health experts in criminal cases are significantly biased in the direction of the side that requested their opinions.[59] One controversial study documented the problem of litigant-induced bias by comparing the opinions rendered by radiologists retained by plaintiffs' attorneys in asbestos cases to opinions rendered by a panel of "independent" radiologists.[60] The plaintiffs' experts found physiological abnormalities 95.9% of the time, while "independent" reviewers found abnormalities only 4.5% of the time.[61]

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[54] *See* Leslie I. Boden & David Ozonoff, *Litigation-Generated Science: Why Should We Care?*, 116 ENVTL. HEALTH PERSP. 117, 118 (2008) ("Often it is not just the lump sum . . . that is the economic incentive. Future business or continued employment may be even more powerful.").

[55] Susannah L. Rose et al., *Relationships Between Authorship Contributions and Authors' Industry Financial Ties Among Oncology Clinical Trials*, 27 J. CLINICAL ONCOLOGY (forthcoming 2010) (manuscript at 1), *available at* http://jco.ascopubs.org/cgi/reprint/JCO.2008.21.6606v1.

[56] *But see In re* Silica Prods. Liab. Litig., 398 F. Supp. 2d 563, 635 (S.D. Tex. 2005) (describing litigation diagnoses that were "manufactured for money").

[57] Rose et al., *supra* note 55, at 1.

[58] *See, e.g.*, Blair H. Sheppard & Neil Vidmar, *Adversary Pretrial Procedures and Testimonial Evidence: Effects of Lawyer's Role and Machiavellianism*, 39 J. PERSONALITY & SOC. PSYCHOL. 320, 325 (1980) (finding that witnesses interviewed by defense attorneys, though not plaintiff attorneys, presented more biased testimony than witnesses interviewed by nonpartisan attorneys).

[59] Randy K. Otto, *Bias and Expert Testimony of Mental Health Professionals in Adversarial Proceedings: A Preliminary Investigation*, 7 BEHAV. SCI. & L. 267, 271 (1989).

[60] Joseph N. Gitlin et al., *Comparison of "B" Readers' Interpretations of Chest Radiographs for Asbestos Related Changes*, 11 ACAD. RADIOLOGY 843, 843 (2004). I put "independent" in scare quotes because the study authors admit that the research was done on behalf of defense attorneys. *Id.* at 844; *see also* L. Christine Oliver et al., Letter to the Editor, 11 ACAD. RADIOLOGY 1397, 1397 (2004) (arguing that among other problems, "the study was done at the behest of attorneys for defendants in asbestos litigation").

[61] Gitlin et al., *supra* note 60, at 855.

C.   Disclosure, Professionalism, and Exclusion

When selection, affiliation, and compensation biases are put together, the predictable result in litigation is that each side retains a favorable expert witness. Rather than seeing a sample of expert opinions that cluster around the truth, as in the real world, in litigation the factfinder sees only two opposite extremes of expert opinion.[62] Analytically, then, expert witnesses are correct in their bottom-line opinions only half the time,[63] and thus are not particularly helpful to the factfinder—at least not as simple signals of the bottom-line truth.

Perhaps this is not such a dire problem. The status quo legal system forces parties to disclose certain ways in which they have influenced their experts, and allows adversaries to cross-examine experts to reveal biases. The system also relies on the experts' own professionalism to keep them honest, and it allows judges to exclude the most biased experts. This Section, however, describes the limits of these approaches.

1.   Mandated Disclosures and Cross-Examination

The United States Supreme Court says that the adversarial "system is premised on the well-tested principle that truth—as well as fairness—is 'best discovered by powerful statements on both sides of the question.'"[64] The factfinder is supposed "to separate the wheat from the chaff" of expert testimony.[65] Lawyers help by firing up the "greatest legal engine ever invented for the discovery of truth"— cross-examination.[66]

Because "[s]unlight is said to be the best of disinfectants," the litigants' mandated disclosures of money and influence are central to this system.[67] Federal Rule of Civil Procedure 26(a)(2) requires that parties disclose for each testifying expert "a statement of the compen-

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[62] *See supra* note 30 (describing bell curve of expert opinions).

[63] Although intended to be somewhat hyperbolic, this claim is analytically true in cases in which each expert's testimony can be reduced to a binary (*p* or *not-p*) claim, only one of which is true. Although there may be complexity and nuance, in the end the testimony either supports the plaintiff or it does not. The 50% claim further requires the assumption that the number of experts that each side brings to trial is uncorrelated with whether that side is arguing for the truth.

[64] Penson v. Ohio, 488 U.S. 75, 84 (1988) (quoting Irving R. Kaufman, *Does the Judge Have a Right to Qualified Counsel?*, 61 A.B.A. J. 569, 569 (1975)); *see also* United States v. Cronic, 466 U.S. 648, 656 (1984) (describing "crucible of meaningful adversarial testing").

[65] Barefoot v. Estelle, 463 U.S. 880, 901 n.7 (1983). This notion that it is the jury's job to sort wheat from chaff is qualified by FEDERAL RULE OF EVIDENCE 702 and the holding of *Daubert v. Merrell Dow Pharmaceuticals., Inc.*, 509 U.S. 579 (1993). *Daubert* is discussed in detail in Part I.C.3 *infra*.

[66] California v. Green, 399 U.S. 149, 158 (1970) (citations omitted).

[67] LOUIS D. BRANDEIS, OTHER PEOPLE'S MONEY 92 (2d ed. 1932).

sation to be paid for the study and testimony in the case"[68] and disclose all materials that the expert considered in forming his opinions.[69] With such knowledge, the factfinder can weigh the testimony accordingly.[70] This provision mirrors other areas of the law where disclosure of potential sources of bias is a strong norm.[71]

But empirical research suggests that disclosure does not ameliorate the bias problem, and may even make it worse. In an experimental setting, Daylian Cain and colleagues created an estimation task, incentivized subjects for accuracy, and provided subjects with "experts" who had better information.[72] Some of the experts had incentives to provide biased advice, and others had incentives to provide accurate advice. Unsurprisingly, the laypersons who relied upon experts with conflicting interests performed significantly worse than the others.[73] The researchers also tested the factfinders' decisions with and without mandated disclosure of the experts' conflicted interests.[74] Counterintuitively, in the regime *with* disclosure of conflicted interests, the factfinders were actually *less* accurate than in the regime of undisclosed conflicts.[75] Under a regime of mandated disclosure, the biased experts actually provided *worse* advice, perhaps because the disclosure made experts feel a sense of "moral license."[76] Even with disclosure, the factfinders failed to discount the experts' opinions suf-

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[68] Fed. R. Civ. P. 26(a)(2)(B)(vi).

[69] Fed. R. Civ. P. 26(a)(2)(B)(ii); *see also* Reg'l Airport Auth. v. LFG, LLC, 460 F.3d 697, 713–17 (6th Cir. 2006) (holding that Fed. R. Civ. P. 26(a)(2) requires disclosure of all information provided to testifying experts, including attorney work product). *But see infra* text accompanying note 79 (noting efforts to change Federal Rules to prevent such disclosures).

[70] *See* Ronald J. Allen & Joseph S. Miller, *The Common Law Theory of Experts: Deference or Education?*, 87 Nw. U. L. Rev. 1131, 1145 (1993) ("Bias is a 'problem' . . . only if . . . the fact finder will not accurately perceive the bias and adequately account for it." (citation omitted)).

[71] *See, e.g.*, Ethics in Government Act of 1978, Pub. L. No. 95-521, §§ 101–309, 92 Stat. 1824, 1824–61 (codified as amended in scattered sections of U.S. Code) (requiring government employees to disclose finances); Investment Advisers Act of 1940 § 206, 54 Stat. 789, 852 (1940) (codified as amended at 15 U.S.C. § 80b-6 (2006)) (requiring investment adviser who is acting as principal in transaction with client or acting on behalf of person other than client to disclose this fact to customer); Kevin Freking, *Drug Maker To Disclose Pay to Doctors*, Houston Chron., Sept. 24, 2008, at 5 (reporting that several states require drugmakers to disclose their payments to doctors).

[72] Cain et al., *supra* note 52, at 9–10.

[73] *Id.* at 14.

[74] *Id.* at 10.

[75] *Id.* at 14, 16 tbl.6. This finding was statistically significant once the researchers adjusted for the factfinders' systematic biases for low estimates.

[76] *See id.* at 6–7, 22 (explaining that disclosure may give experts strategic reasons and "moral license" to exaggerate).

ficiently.[77] In short, mandated disclosure worsened the accuracy of outcomes.

In the adversarial litigation setting with opposing biased experts, one might hope for better results.[78] However, both sides hand-select, prepare, and pay favorable experts to testify, and the disclosures of payments and interactions offer little or no signal as to which side is right. Indeed, in recognition of this point, rulemakers are now expanding attorney work-product protections to prevent discovery into the litigants' efforts to influence the views of their expert witnesses.[79] Without such information, factfinders are apparently supposed to assume that the experts on both sides are approximately equally biased by their interactions with the litigants.

In such a situation, when a factfinder lacks a clear fact-signal, it might be tempting to split the difference.[80] Yet offsetting disclosures of biases (or assumptions about equal biases) do not reliably reveal the truth. If the task were to estimate the value of coins in a jar, and one partisan expert said "$50" and the other partisan expert said "$100," a factfinder might reasonably believe that the true value is around $75. However, this tactic breaks down whenever one expert is more honest than the other. Indeed, the tactic punishes such honesty.

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[77] *Id.* at 6.

[78] For an example of a study showing that adversarial settings improve outcomes, see Cheryl Boudreau & Mathew D. McCubbins, *Nothing But the Truth? Experiments on Adversarial Competition, Expert Testimony, and Decision Making*, 5 J. Empirical Legal Stud. 751 (2008). Boudreau and McCubbins argue that their findings show that "contrary to critics of our adversarial system, competition between experts, by itself, induces truth telling and improves decision making." *Id.* at 785. However, the Boudreau and McCubbins study has limited external validity for assessing the American litigation system. Unlike the real litigation setting, where jurors hear from experts who *always disagree* on the bottom-line questions of the case, in the Boudreau and McCubbins study, mock jurors were offered two competing experts who *either agreed or disagreed*. *Id.* at 759. This was in part because Boudreau and McCubbins's experiment contained institutional constraints—such as monetary penalties—to deter experts from lying, *id.* at 761, unlike the real world where "[i]t is virtually impossible to prosecute an expert witness for perjury." Sears v. Rutishauser, 466 N.E.2d 210, 212 (Ill. 1984). Boudreau and McCubbins note these limits, writing that "competition [between experts], by itself, tends not to help [factfinders] . . . . However, the additional institutions . . . help [factfinders] achieve large improvements in their decisions . . . ." Boudreau & McCubbins, *supra*, at 775.

[79] *See* Report of the Judicial Conference Committee on Rules of Practice and Procedure 10–12 (2009), *available at* http://www.uscourts.gov/rules/Reports/ Combined_ST_Report_Sept_2009.pdf (proposing reform to Rule 26 that would apply work-product protection to all communications between litigants and their trial experts, in part because litigants already often agree to stipulate that there will be no such discovery, perhaps assuming that it will be zero-sum game).

[80] *See* Yee, *supra* note 46, at 246, 255 (showing that when factfinders cannot reliably distinguish good evidence from bad evidence in cases with dueling experts, difference-splitting may be rational solution for factfinder).

This will be especially problematic when the true value is near a natural limit, such as zero (e.g., no liability).

When unable to split the difference, the factfinder may throw up its hands and suppose that, as one judge recently said, "[t]he two sides have canceled each other out."[81] Or the factfinder may attempt to weigh the substantive merits of the highly technical testimony and decide the technical issue itself. "But," as Learned Hand asked, "how can the jury judge between two [expert] statements each founded upon an experience confessedly foreign in kind to their own? It is just because they are incompetent for such a task that the expert is necessary at all."[82] Scholars debate the jury's capacity for making such judgments, which likely varies by context.[83]

Facing this impasse, factfinders may also resort to more-or-less irrelevant proxies for the truth.[84] Some proxies are better than others, ranging from the credentials of the expert and the comprehensiveness of her analysis to the attractiveness of an attorney or the race of a litigant. And to the extent that it is the expert herself who actually persuades the factfinder, it may have more to do with her rhetorical skills and personality than the substance of her testimony.[85]

Thus, overall, it seems clear that mandatory disclosure of the biases of adversarial expert witnesses does not provide the reliable truth-signal that the lay factfinder needs.

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[81] Liptak, *supra* note 5, at A1 (quoting Judge Denver D. Dillard of Johnson County District Court in Iowa City).

[82] Hand, *supra* note 1, at 54.

[83] *Compare* Brewer, *supra* note 8, at 136 (arguing that allowing laypersons to rely on their own substantive judgment is "so obviously an unsatisfactory solution"), *with* Neil Vidmar & Shari Seidman Diamond, *Juries and Expert Evidence*, 66 BROOK. L. REV. 1121, 1136–37 (2001) (reviewing psychological research showing that some capacities for technical judgment can be taught to laypersons).

[84] *See* VIDMAR, *supra* note 9, at 172–73 (arguing that both judges and juries use proxies, such as general impressions of character and veracity, to resolve conflicting expert testimony); Brewer *supra* note 8, at 136–45 (criticizing use of proxies such as expert's credentials or demeanor).

[85] *See, e.g.*, MOLLY SELVIN & LARRY PICUS, RAND, THE DEBATE OVER JURY PERFORMANCE: OBSERVATIONS FROM A RECENT ASBESTOS CASE 27–28 (1987) (documenting how jurors in asbestos trial relied on experts' personal characteristics, social status, and billing rates to determine their credibility); Jane Goodman et al., *What Confuses Juries in Complex Cases*, TRIAL, Nov. 1985, at 65, 68 (describing how post-trial interviews with jurors showed that they made "personal judgments about the experts and *not* about the information relayed"); Langbein, *supra* note 11, at 836 (explaining that juries "systematic[ally] distrust and devalu[e] . . . expertise" because all expert witnesses can be made to look biased); *cf.* Dennis J. Devine et al., *Strength of Evidence, Extraevidentiary Influence, and the Liberation Hypothesis: Data from the Field*, 33 LAW & HUM. BEHAV. 136, 136 (2009) (discussing "liberation hypothesis" that "jury verdicts will be determined by the strength of the evidence in most trials but susceptible to non-evidentiary influences when the evidence is 'close'").

2. Professionalism

The legal system also relies upon experts' professionalism—including their training, long-term self-interests, and ethical commitments—to tether them to the truth. I consider each in turn.

According to one commentator, "physicians believe they are invulnerable to undue influence from industry . . . because they are convinced that their knowledge of the medical literature makes them impervious to industry influence."[86] Indeed, Federal Rule of Evidence 702 requires that testifying experts be qualified by their "knowledge, skill, experience, training, or education."[87] Similarly, many states have passed laws requiring that medical malpractice experts have professional credentials and that plaintiffs' lawyers get favorable opinions from such professionals before filing their cases.[88] All this presumes that experts' professional training makes them more reliable as a signal of the truth than a mere partisan lawyer would be.

The expert's self-interests also limit the range of possible litigation positions. If an expert takes an untenable position and then suffers a devastating cross-examination or a disparaging remark by a judge, then she makes herself unattractive to future potential clients. If an expert has a record of scholarly publications, this will also limit the litigation positions that she can credibly assert.[89]

Professional associations also have ethical canons.[90] These ethical canons for professional practice tend to hold that conflicts of interest should be avoided, and where unavoidable they should be resolved in

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[86] Peter A. Ubel, *Commentary: How Did We Get Into This Mess?*, in Conflicts of Interests: Challenges and Solutions in Business, Law, Medicine, and Public Policy 142, 143 (Don A. Moore et al. eds., 2005); *see also* Michael Lamport Commons et al., *Expert Witness Perceptions of Bias in Experts*, 32 J. Am. Acad. Psychiatry & L. 70, 73 (2004) ("We might conclude . . . that a state of relative denial exists among respondant[ ] [experts] as to the power of potentially biasing factors to affect their decision making."). Indeed, there is good reason to think that professionals are not impervious to bias, as many of the studies described in Part I.B were conducted on professionals.

[87] Fed. R. Evid. 702.

[88] Aaron S. Kesselheim & David M. Studdert, *Role of Professional Organizations in Regulating Physician Expert Witness Testimony*, 298 J. Am. Med. Ass'n 2907, 2908 (2007) ("[As of] 2006, approximately 22 state legislatures had enacted minimum qualifying standards for physician experts. Most of these laws spell out basic requirements, such as holding a current medical license or involvement in active clinical practice."); *see also* Catherine T. Struve, *Expertise and the Legal Process*, in Medical Malpractice and the U.S. Health Care System, *supra* note 9, at 173, 174 (describing certificate-of-merit provisions, which require qualified expert to attest that case has bona fide scientific basis).

[89] However, these publications are also signals to litigants searching for favorable opinions.

[90] *See* Aaron S. Kesselheim & David M. Studdert, *Professional Oversight of Expert Witnesses*, 249 Annals of Surgery 168, 168 (2009) (explaining that many medical colleges, boards, and societies have developed professional guidelines for those acting as expert witnesses).

favor of clients.[91] The conflict of interest analysis in medicine usually focuses on the physician's conflict with a patient's interests.[92] In litigation, the conflict is different: Litigants pay testifying physicians for favorable testimony, but the factfinders depend on the experts to reveal the truth, as the experts have sworn to do.[93] The American Medical Association's Code of Medical Ethics contains no imperative for expert witnesses to avoid the conflicts inherent in litigation, perhaps because under current procedures there is no apparent way of doing so.[94]

The Code of Medical Ethics explains that "[p]hysician testimony must not be influenced by financial compensation" but implies that only the crudest forms of incentives, such as "compensation that is contingent upon the *outcome* of litigation," are actually prohibited.[95] However, as described in Part I.B.3, the expert's compensation typically still is contingent on her *opinions* being favorable to her sponsor.

Furthermore, guidelines requiring expert medical witnesses to engage in reasonable investigation and truthful testimony have little deterrent effect because professional associations rarely observe

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[91] *See, e.g.*, Am. Med. Ass'n, Code of Medical Ethics § 8.03 (2008–2009 ed.), *available at* http://www.ama-assn.org/ama/pub/physician-resources/medical-ethics/code-medical-ethics.shtml [hereinafter AMA Code] ("Under no circumstances may physicians place their own financial interest above the welfare of their patients.").

[92] *See, e.g.*, Howard Brody, *The Physician-Patient Relationship*, *in* Medical Ethics 75, 93 (Robert M. Veatch ed., 2d ed. 1997) (describing conflicts between patient welfare and obligations to health care plan in managed care situations); Hans Jonas, *Philosophical Reflections on Experimenting with Human Subjects*, *in* Contemporary Issues in Bioethics 432, 438 (Tom L. Beauchamp & LeRoy Walters eds., 3d ed. 1989) ("[T]he physician is obligated to the patient and to no one else."); William M. Sage, *Some Principles Require Principals: Why Banning "Conflicts of Interest" Won't Solve Incentive Problems in Biomedical Research*, 85 Tex. L. Rev. 1413, 1416–17 (2007) (distinguishing traditional "relational duties" which can cause conflicts of interests and "regulatory duties" which cannot). *But see, e.g.*, Stephen R. Latham, *Conflict of Interest in Medical Practice*, *in* Conflict of Interest in the Professions 279, 284 (Michael Davis & Andrew Stark eds., 2001) (illustrating how doctor retained by defense may feel conflicted about not being able to notify injured plaintiff of potentially lethal condition discovered during her examination).

[93] *See* Dennis F. Thompson, *Understanding Financial Conflicts of Interest*, 329 New Eng. J. Med. 573, 573 (1993) (defining conflict of interest as "a set of conditions in which professional judgment concerning a primary interest (such as a patient's welfare or the validity of research) tends to be unduly influenced by a secondary interest (such as financial gain)"). *But see generally* Sage, *supra* note 92 (arguing against construing "conflict of interests" as encompassing situations without "relational duties").

[94] *See also* Kesselheim & Studdert, *supra* note 90, at 169 (describing five areas that Code of Ethics of American Association of Neurological Surgeons (AANS) covers for expert witness work—"personal qualifications, case research, interpretation of the standard of care, partisanship, and reimbursement"—and requirements of each area).

[95] AMA Code, *supra* note 91, § 9.07 (emphasis added).

expert witness behavior.[96] Although there is the rare enforcement proceeding, doctors who testify for defendants, at least, seem to enjoy almost complete de facto immunity from formal discipline, partly because plaintiffs lack the access, incentives, or even the right to pursue complaints against them.[97] Some medical societies worry that such one-sided enforcement is an example of "organized medicine preventing physicians from testifying to the truth,"[98] and commentators suggest that "the procedure appears designed to favor malpractice defendants."[99] After all, because professional associations are interest groups of present and potential malpractice *defendants*, they are not the most credible institutions for policing expert testimony.[100]

Thus, notwithstanding the safeguards of professionalism, problems remain. As early as 1892, the *Journal of the American Medical Association* editorialized about the "disgraceful exhibition of medical experts who are hired like horses to drive so far, and in such and such directions, with the proper harness and appointments for one purpose alone."[101] In surveys, experts themselves admit that they are often "manipulated" by lawyers to provide favorable testimony.[102] In short, expert witnesses often walk a thin line between partisanship and professionalism, and some draw the line nearer to the former than the latter.

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[96] *See* David J. Rothman, *Medical Professionalism—Focusing on the Real Issues*, 342 New Eng. J. Med. 1284, 1284 (2000) (describing medical profession's "record on self-regulation" as "replete with failures"); Joseph Sanders, *Expert Witness Ethics*, 76 Fordham L. Rev. 1539, 1540 (2007) (contending that "the effectiveness of sanctions is quite limited"); *see also* Gross, *supra* note 4, at 1178 (explaining that although expert would "fear the consequences of irresponsible testimony" if she "were accountable to [her] colleagues," testimony "in court is generally invisible and inaudible in her own professional world").

[97] Kesselheim & Studdert, *supra* note 90, at 171 (discussing American Association of Neurological Surgeons).

[98] *Id.* at 168 (quoting Comm. on Med. Liab., Am. Acad. of Pediatrics, *Guidelines for Expert Witness Testimony in Medical Malpractice Litigation*, 109 Pediatrics 974, 977 (2002)).

[99] Catherine T. Struve, *Doctors, the Adversary System, and Procedural Reform in Medical Liability Litigation*, 72 Fordham L. Rev. 943, 1002 (2004).

[100] *See* Latham, *supra* note 92, at 297–98 (summarizing debate over whether professions regulate themselves for social benefit or to promote their special interests).

[101] Editorial, *Expert Medical Testimony in Jury Trials*, 18 J. Am. Med. Ass'n 304 (1892), *reprinted in* 267 J. Am. Med. Ass'n 1164 (1992).

[102] *See* Daniel W. Shuman et al., *An Empirical Examination of the Use of Expert Witnesses in the Courts—Part II: A Three City Study*, 34 Jurimetrics J. 193, 201 tbl.3 (1994) (reporting 77% of experts in study believed that "[l]awyers manipulate their experts to weaken unfavorable testimony and strengthen favorable testimony"); *see, e.g.*, *In re* Welding Fume Prods. Liab. Litig., 534 F. Supp. 2d 761, 771 (N.D. Ohio 2008) (noting that expert conceded that he had, "to some extent, incorporated . . . the opinions expressed by defense counsel").

3. Exclusion

When the experts and their professional societies themselves fail to police bias, the courts endeavor to do so by attempting to identify biased experts and to discount or exclude their testimony. There are two issues to address here. First, who is to perform this screening function, and what capacities do they have for this task? Second, what rules or standards can those screeners use to demarcate between biased and unbiased testimony?

As to the first question, it is clear that juries can always discount or disregard evidence that appears unreliable, and they are instructed to do so.[103] But the exclusion solution shifts that responsibility toward the judge.

Yet, the comparative advantage of one appointed (or elected) lawyer in a robe versus twelve randomly selected laypersons is far from obvious. As one recent article concludes, "in complicated fields like DNA, epidemiology, or chemistry, judges are also laypersons."[104] As judges have noted, responsibility for excluding unreliable experts gives them the "heady task" of "resolv[ing] disputes among respected, well-credentialed scientists about matters squarely within their expertise, in areas where there is no scientific consensus as to what is and what is not 'good science.'"[105] Still, some scholars suppose that judges can develop a degree of special competence in resolving scientific questions.[106] Yet, we have little data about how reliably judges are able to do so.

The current federal exclusion doctrine flows from the landmark case *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,[107] which the states

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[103] *E.g.*, 3 KEVIN F. O'MALLEY ET AL., FEDERAL JURY PRACTICE & INSTRUCTIONS § 103.01 (5th ed. 2000).

[104] Vidmar & Diamond, *supra* note 83, at 1169.

[105] Daubert v. Merrell Dow Pharms., Inc. (*Daubert II*), 43 F.3d 1311, 1316 (9th Cir. 1995) (Kozinski, J.).

[106] *See, e.g.*, Valerie P. Hans, *Judges, Juries, and Scientific Evidence*, 16 J.L. & POL'Y 19, 44 (2007) (concluding, based on study comparing judges' and jurors' responses to scientific evidence, that as result of their "more extensive exposure . . . to adversary presentations," judges may "evaluate more critically the adversarial statements about the expert evidence"). *But see* Sophia I. Gatowski et al., *Asking the Gatekeepers: A National Survey of Judges on Judging Expert Evidence in a Post-*Daubert *World*, 25 LAW & HUM. BEHAV. 433, 444 (2001) (showing that only six percent of judges in study demonstrated clear understanding of concept of falsifiability, one primary *Daubert* criterion); James Langenfeld & Chris Alexander, Daubert *Challenges of Antitrust Experts* 3 (Am. Antitrust Inst., Working Paper No. 08-06, 2008), *available at* http://ssrn.com/abstract=1337081 (reviewing empirical data that judges appear to be biased "against allowing plaintiffs' economic experts to provide testimony in antitrust cases compared to defense experts").

[107] 509 U.S. 579 (1993); *see also* Kumho Tire Co. v. Carmichael, 526 U.S. 137, 150–52 (1999) (explaining that *Daubert*'s "gatekeeping requirement" applies not only where

increasingly follow as well.[108] Under *Daubert*'s interpretation of Federal Rule of Evidence 702, an interpretation that was explicitly codified in the rules in 2000,[109] expert scientific testimony is admissible if it meets a sufficient "standard of evidentiary reliability."[110] It must be "scientific knowledge," meaning that it "must be derived by the scientific method" or "based on scientifically valid principles."[111] This standard provides judges with considerable latitude in deciding whether to exclude expert testimony as insufficiently "reliable" or "scientific."[112]

Rule 702 instructs courts first to consider whether a witness is "qualified as an expert by knowledge, skill, experience, training, or education";[113] and then to check that: "(1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case."[114] Arguably, Rule 702 catches the most egregious problems. Courts exclude testimony where an expert altogether lacks the relevant qualifications, lacks facts to back up her opinions, lacks a reliable method, or has utterly failed to properly apply the method to the facts.[115] But the Rule is unhelpful in the great majority of cases in which an expert *is* qualified but selects skewed facts and data, exercises biased judgment in selecting principles and methods, or applies the principles and methods in ways that will favor her litigant-sponsor.[116] Thus, a battle

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experts rely on scientific principles but also where experts give experience-based testimony).

[108] *See* Edward K. Cheng & Albert H. Yoon, *Does* Frye *or* Daubert *Matter? A Study of Scientific Admissibility Standards*, 91 Va. L. Rev. 471, 473 & fig.1 (2005) ("[O]ver the years a number of states have formally adopted the *Daubert* standard.").

[109] *See* Fed. R. Evid. 702 advisory committee's note (noting that amendment to rule affirmed holding of *Daubert*).

[110] *Daubert*, 509 U.S. at 590.

[111] *Id.* at 590, 597.

[112] *But see* Susan Haack, *Trial and Error: The Supreme Court's Philosophy of Science*, 95 Am. J. Pub. Health S66, S68 (2005) (arguing that Supreme Court's equation of "scientific" with "reliable" is erroneous, since former is neither necessary nor sufficient for latter); Sheila Jasanoff, *Representation and Re-Presentation in Litigation Science*, 116 Envtl. Health Persp. 123, 124–25 (2008) (explaining complications inherent in demarcating between science and non-science).

[113] Fed. R. Evid. 702.

[114] *Id.*

[115] *See, e.g.*, *In re* Silica Prods. Liab. Litig., 398 F. Supp. 2d 563, 625 (S.D. Tex. 2005) (excluding expert medical testimony that "fail[ed] to satisfy the minimum, medically-acceptable criteria").

[116] *See, e.g.*, *In re* Vioxx Prods. Liab. Litig., 401 F. Supp. 2d 565, 583–84 (E.D. La. 2005) (admitting testimony of expert because he was "well qualified" and "did utilize proper methodology," even though his analysis was "wholly conclusive" and "littered with circular reasoning," explaining that "the jury will be entitled to draw its own conclusions as to how much weight [the expert's] opinion should be afforded").

of hired-gun experts is the norm, and exclusion "is the exception rather than the rule."[117] As one scholar notes, "Rule 702 attempts to solve the problem of adversarial bias through a reliability test, but it leaves intact the general adversarial structure that creates the underlying reliability problem."[118]

The thesis of this Section has been modest. Although disclosure, expert professionalism, and exclusion may help at the margins, there is significant room for improvement in the procedures and evidence available to lay factfinders tasked with resolving the highly technical disputes that are increasingly central in litigation.

D.   *The Unfulfilled Promise of Court-Appointment*

Another potential solution to the expert bias problem is to provide factfinders with *unbiased* experts that can reliably signal the truth. Judges are the obvious persons to present such neutral experts since judges are themselves neutral. Indeed, for more than a hundred years, scholars have called, and continue to call, for judges to bring nonpartisan experts into trials.[119] In 1975, the Federal Rules of Evidence were amended to provide explicitly that "[t]he court may appoint any expert witnesses agreed upon by the parties, and may appoint expert witnesses of its own selection."[120]

There are two problems with this approach. First, there is the concern that "court appointed experts [may] acquire an aura of infallibility to which they are not entitled."[121] Second, and more importantly, the approach is simply not used.

As to the first concern, one court explained, "[t]he presence of a court-sponsored witness, who would most certainly create a strong, if not overwhelming, impression of 'impartiality' and 'objectivity,' could potentially transform a trial by jury into a trial by witness."[122] Of course, if court-appointed experts were perfectly accurate, we might want factfinders to give them complete deference. The problem is that although court-appointed experts avoid the systematic biases induced

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[117] FED. R. EVID. 702 advisory committee's note.

[118] Bernstein, *supra* note 32, at 489.

[119] *See, e.g.*, Hand, *supra* note 1, at 56 (proposing in 1901 "a board of experts or a single expert, not called by either side, who shall advise the jury of the general propositions applicable to the case which lie within his province"); Bernstein, *supra* note 32, at 459 (proposing in 2008 that courts "appoint nonpartisan experts to advise them on the reliability of proffered testimony or perhaps even exclude adversarial experts and replace them with court-appointed experts").

[120] FED. R. EVID. 706; Act of Jan. 2, 1975, Pub. L. No. 93-595, 88 Stat. 1926, 1938 (codified as amended in scattered sections of 28 U.S.C.).

[121] FED. R. EVID. 706 advisory committee's note.

[122] Kian v. Mirro Aluminum Co., 88 F.R.D. 351, 356 (E.D. Mich. 1980).

by litigants, they may have other preexisting biases.[123] Or, they may simply err.

All error is problematic, but unrebutted error is especially so. The adversarial system incentivizes the litigants to uncover and rebut any errors that opposing experts make, and litigants do so by hiring their own experts to dispute them. But with a court-appointed expert, the judge has no such incentive.[124] With no prior commitment to a particular outcome, the court cannot be expected to identify, much less fix, its own expert's errors.[125] Still, litigants can try to correct errors made by the judge's expert, through cross-examination and the testimony of their hired guns. However, a litigant and his expert will have a hard time overcoming the testimony of a court-appointed expert, given the disparity in the credibility of the two experts.[126] Because of this risk of effectively irrebuttable error, litigants rarely request that courts appoint experts.

Second, even if judges like the *concept* of court-appointed experts, they in general have declined to utilize Rule 706 in the thirty-five years that it has been on the books. According to one survey, judges overwhelmingly "view the appointment of an expert as an extraordinary activity that is appropriate only in rare instances."[127] In the survey, fewer than one in ten federal judges reported having used a court-appointed expert more than once in their careers, and only

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[123] *See* Ellen E. Deason, *Court-Appointed Expert Witnesses: Scientific Positivism Meets Bias and Deference*, 77 Or. L. Rev. 59, 101–02 (1998) (discussing how "prevailing culture" or "personal attitudes" might still bias nonpartisan experts).

[124] *See* Richard A. Posner, *An Economic Approach to the Law of Evidence*, 51 Stan. L. Rev. 1477, 1488 (1999) ("Since it is difficult to evaluate legal factfinding and thus to criticize a judge for having made erroneous findings or praise him for good ones, the judge's incentive to exert himself to do a good job will be limited."); *see also* Bernstein, *supra* note 32, at 457 n.28 ("The adversarial system . . . creates a greater incentive for each side to conduct a thorough search for evidence . . . .").

[125] One could imagine courts appointing multiple experts to answer each question. While this would indeed increase accuracy, it also would significantly increase the burden on the court. *Cf.* E. Donald Elliott, *Toward Incentive-Based Procedure: Three Approaches for Regulating Scientific Evidence*, 69 B.U. L. Rev. 487, 504 (1989) (explaining why science advisory panels have not been widely used by courts).

[126] To avoid this risk of erroneous but virtually irrefutable experts, courts could use jury instructions to try to reduce the neutral experts' influence or even withhold completely the information that the expert was court-appointed. *See* Deason, *supra* note 123, at 131 (suggesting courts might use cautionary instructions but noting "the effectiveness of such instructions [is] unknown"). However, to the extent that these efforts work to reduce the persuasiveness of court-appointed experts, these efforts would also seem to reduce their relative efficacy over the status quo system of adversarial experts. There seems to be no general way to calibrate the jury's level of reliance with the expert's level of accuracy.

[127] Joe S. Cecil & Thomas E. Willging, Fed. Judicial Ctr., Court-Appointed Experts: Defining the Role of Experts Appointed Under Federal Rule of Evidence 706, at 5 (1993).

twenty percent had ever appointed even a single expert.[128] A review of California civil trials found that of the 1748 "appearances by partisan experts in 529 cases," there was "not a single reference to a court-appointed expert."[129]

Judges, like everyone else, are driven by deeply ingrained norms, role ascriptions, and incentive structures.[130] "[I]n our adversarial system of litigation lawyers are the dominant actors. They define the issues, assemble the evidence, and control the pace of litigation."[131] Unlike judges in inquisitorial legal systems,[132] American judges may view court-appointment of an expert as a step outside their traditional role and an intrusion on the factfinding role of the jury.[133] These roles "encompass an entire political image of justice,"[134] which is not easily changed, even if we could agree that it were suboptimal.

Furthermore, the retention of an expert witness is no simple task. Even if so inclined, judges may not have the time, expertise, or resources to (1) figure out what sorts of experts are needed in each of the hundreds of cases on their dockets; (2) perform searches for qualified experts; (3) select an expert for each aspect of each case; (4) negotiate contracts with those experts; (5) educate the experts on the predicate facts of the cases; (6) guide the experts through the process of rendering their opinions in the form of reports; and (7) prepare the experts for testimony and cross-examination in depositions and trial.[135] The American system of justice simply does not recruit, equip, or incentivize judges for these sorts of tasks.[136] Justice Stephen Breyer has suggested that scientific organizations could assist the courts by

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[128] *Id.* at 7–8 & tbl.1 (showing that 86 judges out of 431 surveyed had appointed at least one expert, and only 41 had appointed more than one).

[129] Gross, *supra* note 4, at 1191 (noting that California evidence code contains provisions for court-appointed experts).

[130] *See* Adam Benforado & Jon Hanson, *The Great Attributional Divide: How Divergent Views of Human Behavior Are Shaping Legal Policy*, 57 EMORY L.J. 311, 351 (2008) ("Social psychologists have long understood that role schemas—the norms, customs, and responsibilities that we associate with various jobs and functions—powerfully influence the people who take on particular roles."); *see also* sources cited *supra* note 124 (discussing judges' incentives).

[131] Gross, *supra* note 4, at 1198.

[132] *See* Langbein, *supra* note 11, at 835 ("In the Continental tradition experts are selected and commissioned by the court . . . .").

[133] *See* JEROME FRANK, LAW AND THE MODERN MIND 183 (2009) ("The function of the jury is supposed to be fact finding."). However, this does not explain why courts still refuse to appoint experts in bench trials. Perhaps there is a similar sense that it is improper for judges to be influenced by anything aside from what litigants bring them.

[134] Sanders, *supra* note 96, at 1581.

[135] *See* Gross, *supra* note 4, at 1202 ("The judge has no reason to worry about the preparation of a partisan expert; that is the responsibility of the attorney who calls the witness.").

[136] *See* Posner, *supra* note 124, at 1488 (describing challenges of "searcher-judge" system).

performing some of these functions,[137] and they have indeed attempted to do so, but the programs have "withered for lack of use."[138]

One might be tempted to change Rule 706 to *require* judges to appoint a neutral expert in every case, thereby moving the American system of litigation closer to the inquisitorial model.[139] Even if concerns about accuracy and fairness could be set aside, it seems that such a move is not politically feasible, since neither attorneys nor judges support such a radical change of the American litigation system.[140] It is thus worthwhile to explore an alternative and more feasible way to provide juries with reliable truth-signals, ideally one that self-corrects for expert errors and is consistent with the norms of the adversarial system.[141]

II

THE BLIND EXPERT

The previous Part showed that when hired-gun experts appear on each side of a case, it is exceedingly difficult for the factfinder to discern where the truth lies. The problem remains even with mandated disclosure, professionalism, exclusion, and the possibility of court-appointment.

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[137] *See* Gen. Elec. Co. v. Joiner, 522 U.S. 136, 149–50 (1997) (Breyer, J., concurring) (suggesting that scientific organizations could perform such function (citing Brief for The New England Journal of Medicine & Marcia Angell, M.D., as Amici Curiae Supporting Neither Petitioners Nor Respondents at 16–18, *Joiner*, 522 U.S. 136 (No. 96-188))).

[138] Deason, *supra* note 123, at 74, 147 (describing efforts in 1950s and 1960s to establish structures for courts to appoint experts and their subsequent lack of use); *see also* Deborah Runkle, *Court Appointed Scientific Experts: A Demonstration Project of the American Association for the Advancement of Science*, 6 RISK DECISION & POL'Y 139 (2001) [hereinafter Runkle, *CASE*] (discussing structure of Court Appointed Scientific Experts (CASE) program created by American Association for the Advancement of Science (AAAS) in order to help judges obtain independent experts); E-mail from Deborah Runkle, Project Manager, Court Appointed Scientific Experts, to Christopher T. Robertson (Dec. 19, 2008) (on file with the *New York University Law Review*) (explaining that AAAS project is no longer being marketed, has not received any requests for experts recently, and never achieved high level of use). As described below, this infrastructure could instead be targeted at litigants, rather than at the courts who have chosen not to use it.

[139] *See, e.g.*, Gross, *supra* note 4, at 1220–30 (discussing reform options, including mandating use of court-appointed experts).

[140] *See, e.g.*, Sanders, *supra* note 96, at 1581 (observing that proposals for court-appointed experts are resisted because they interfere with attorney control and challenge adversarial procedures that are seen as fundamental to our image of justice). It is also unclear how such a rule would be enforced, since the litigants likely would not object or appeal when a judge fails to fulfill this new duty.

[141] *See* Elliott, *supra* note 125, at 489 ("If we wish to change the behavior of litigants with regard to . . . the use of experts, we must structure our procedural system so that the incentives it creates regulate conduct by litigants in most cases without the need for discretionary judicial intervention.").

Consider the absurdity of this situation. If we believed that when we consulted our neurologists or our aircraft engineers in the real world there was only a 50/50 chance that they would provide accurate advice, we would not call them experts at all, nor would we pay them handsomely to cure our diseases and build our planes. Yet, that is the story of litigation: One out of every two experts is wrong, and it is quite difficult to tell which one.

The fact-deficit in litigation is a familiar problem for scholars, and there have been calls for all sorts of interventions, from abandoning the adversarial process altogether to taking the fact-finding task away from juries.[142] However, if the basic problem is that factfinders do not get reliable truth signals because experts are biased by the litigants who select, affiliate with, and compensate them, then the solution is simply to eliminate those contingent factors.

This Part lays out a solution that exploits our adversarial norms rather than tries to avoid them (as in court-appointment). Even if self-interested litigants bring the experts to court, those experts can retain objectivity if they render their opinions behind blinds of ignorance. Section A explains the conceptual basis of this solution and briefly reviews some of its precedents in philosophy, business, politics, science, and the law. Section B articulates a pragmatic account of how this concept could be operationalized in the adversarial system of litigation with little or no changes to the rules of procedure and evidence. Section C demonstrates how this procedure allows litigants to signal the facts to factfinders without degrading the accuracy of experts, even when litigants retain control over the disclosure decision.

A.   *The Concept of Blinding in Justice and Science*

The concept of blind decisionmaking has deep roots. Consider Lady Justice, the icon engraved on courthouse facades and bar cards: She stands on rocky ground, wearing a blindfold.[143] The rocky ground suggests that justice is contingent—dependent on the particulars of

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[142] *See, e.g.*, Marcia Angell, Science on Trial: The Clash of Medical Evidence and the Law in the Breast Implant Case 204 (1996) (arguing that, especially in cases involving expert witnesses, verdicts by judges "would almost certainly be sounder than those made by juries . . . [who] are often left to make judgments largely on the basis of the emotional appeals of the lawyers and their expert witnesses"); Paul J. Barringer et al., *Administrative Compensation of Medical Injuries: A Hardy Perennial Blooms Again*, 33 J. Health Pol. Pol'y & L. 725, 745–52 (2008) (describing proposals for administrative "health courts" as alternative to civil litigation with jury trials). *See generally* Struve, *supra* note 99 (surveying proposed procedural reforms to medical malpractice system).

[143] *See* David Luban, *Law's Blindfold*, *in* Conflict of Interest in the Professions, *supra* note 92, at 23, 23 (noting blindfold is "relatively recent addition" that signifies "that Justitia bases her decisions only on the merits of the case").

the world—and the blindfold seems to concede that bias is a real temptation, even for Lady Justice herself. The blindfold is a practical intervention—a tactical ignorance—that protects the decisionmaker from those biasing temptations.

Likewise, consider the veil of ignorance used by philosopher John Rawls. In debates about distributive justice, Rawls recognized that wealthy persons may tend to see wealth redistribution as unjust, while poor persons may tend to hold that justice demands wealth redistribution.[144] Each of these partisans could then develop elaborate theoretical justifications for their positions (e.g., invoking property rights or equality of outcomes), which would then be irreconcilable with each other. Facing this impasse, Rawls turned away from the competing substantive *theories* and focused instead on the biased perspectives of the *deliberators*. Rawls proposed that justice could be ascertained in a thought experiment in which each citizen, deprived of the knowledge of "certain things that are irrelevant from the standpoint of justice," deliberates with all other citizens about the basic rules of society from behind this "veil of ignorance."[145] As Rawls poetically closed his *A Theory of Justice*, "Purity of heart, if one could attain it, would be to see clearly and to act with grace and self-command from this point of view."[146] The idea of a veil of ignorance has become extremely influential for political and legal theory.[147]

Rawls himself emphasized that his veil was a "purely hypothetical" thought experiment.[148] In the real world, we attempt to

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[144] RAWLS, *supra* note 14, at 18–19.

[145] *Id.* Although Rawls made famous the veil of ignorance, the idea of changing the point of view of the deliberator can be found elsewhere. *See, e.g.*, DAVID HUME, A TREATISE OF HUMAN NATURE 524 (Ernest C. Mossner ed., Penguin Books 1985) (1739) ("'Tis only when a character is considered in general, without reference to our particular interest, that it causes such a feeling or sentiment, as denominates it morally good or evil."); ADAM SMITH, THE THEORY OF MORAL SENTIMENTS 1–43 (D.D. Raphael & A.L. Macfie eds., Liberty Fund 1984) (1759) (describing "impartial spectator"); John C. Harsanyi, *Cardinal Welfare, Individualistic Ethics, and Interpersonal Comparisons of Utility*, 63 J. POL. ECON. 309, 316 (1955) (describing ethical requirement of "impersonality" in which person's preferences are those he would choose if he did not know his personal position).

[146] RAWLS, *supra* note 14, at 587.

[147] *See* Martha Nussbaum, *The Enduring Significance of John Rawls*, CHRON. HIGHER EDUC., July 20, 2001, at B7, B8 (discussing importance of *A Theory of Justice* and veil of ignorance); *see also, e.g.*, Adrian Vermeule, *Veil of Ignorance Rules in Constitutional Law*, 111 YALE L.J. 399 (2001) (exploring analysis of constitutional provisions as "veil rules"); Russell Korobkin, *Determining Health Care Rights from Behind a Veil of Ignorance*, 1998 U. ILL. L. REV. 801 (using veil to argue for certain health care rights).

[148] RAWLS, *supra* note 14, at 21. Nonetheless, Rawls argued that such an experiment has value as an "expository device." *Id.* In his early writings, Rawls conceded to a degree that his idea underdetermined the liberal principles of distributive justice that he advocated. *Id.* at 15 ("I want to maintain that . . . this situation does lead to principles of justice contrary to utilitarianism and perfectionism . . . . Still, one may dispute this contention . . . .").

merely *simulate* the veil of ignorance in our deliberations about justice by trying to imagine what we would think *if* we had such constraints on our knowledge. In reality, however, we cannot fully ignore "knowledge of those contingencies which sets [us] at odds and allows [us] to be guided by [our] prejudices."[149] Indeed, many scholars presume that in public policy debates actually removing "any personal stake in the outcome . . . is almost never practically feasible."[150]

Nonetheless, the basic concept of tactical ignorance has some real-world applications. When there is a concern that a policymaker, judge, adviser, or auditor will be biased toward companies in which she has financial interests, it is often best to avoid the conflict altogether by eliminating her power (e.g., recusing herself from the dispute) or eliminating the biasing element (e.g., divesting from the asset).[151] When these solutions are impracticable, a principal can instead establish a "blind trust" into which her assets are deposited. While allowing the principal to reap the benefits of her investments, the "blind" prevents the principal from knowing which companies she owns and thus prevents her from being biased toward those companies.[152]

Similarly, when Bill Clinton was mired in personal legal disputes during his presidency, donors contributed to a defense fund for his legal expenses. To preserve the President's impartiality, the fund made efforts to ensure that the identities of contributors "were kept 'secret not only from the public, but from Clinton himself.'"[153] The theory (contrary to the norms of electoral disclosure) was that "[i]f he doesn't know to whom he's beholden . . . he won't act as if he is."[154] Legal scholars have proposed that this notion of blind donations could be generalized as a model for campaign financing.[155]

Scientists routinely use blinds. As one methodologist concludes, "[A]ny process using a human as a perceptor, rater, or interpreter

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[149] *Id.* at 19.

[150] Don A. Moore, *Introduction* to Conflicts of Interest: Challenges and Solutions in Business, Law, Medicine, and Public Policy, *supra* note 86, at 7.

[151] *See, e.g.*, Model Code of Judicial Conduct Canon 4(D) (2004) ("[A] judge shall divest himself or herself of investments and other financial interests that might require frequent disqualification.").

[152] *See, e.g.*, Michael Davis, *Introduction* to Conflict of Interest in the Professions, *supra* note 92, at 12 (giving hypothetical example of how partner at auditing firm may avoid conflicts of interest).

[153] Andrew Stark, Conflict of Interest in American Public Life 241 (2000) (quoting Clinton aide).

[154] *Id.*

[155] *See generally* Ian Ayres & Jeremy Bulow, *The Donation Booth: Mandating Donor Anonymity To Disrupt the Market for Political Influence*, 50 Stan. L. Rev. 837 (1998) (proposing system of blind trusts for political campaign contributions).

should be 'as blind as possible for as long as possible.'"[156] Indeed, the randomized, controlled "double-blind" study is the scientific "gold standard."[157] In such studies, subjects are randomly assigned to treatment and control groups to avoid selection bias. In a single-blind study, the human *subjects* are not informed about whether they are in the control group (e.g., receiving a placebo) or the treatment group (e.g., receiving the drug being tested). In a double-blind study, the *researcher* is additionally prevented from knowing which subjects are in the control group versus the experimental group. This second blind prevents the researcher from exercising biased judgments along the way, both in her interactions with the human subjects and in her management of the study itself.

Blinds are also quite common in academia. In most scholarly journals (outside of legal academia), double-blind review—where the reviewers do not know the identity of the authors, and vice versa—is used for article selection.[158] In order to avoid possible favoritism for particular students, law professors routinely use blinds in grading papers.[159] The U.S. Supreme Court has specifically pointed to this grading practice to demonstrate that it is possible to evaluate the quality of speech even if it is anonymous, which was part of the Court's justification of constitutional protection for anonymous speech.[160]

Blinding also has potential application in the context of criminal law. In forensic science, experts work in close collaboration with the police, which creates the potential for biased science. Michael Risinger and other scholars have called for a "wall of separation" such

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[156] Risinger, *supra* note 43, at 3 (quoting Robert Rosenthal, *How Often Are Our Numbers Wrong?*, 33 Am. Psychologist 1005, 1007 (1978)).

[157] *See, e.g.*, TMJ Implants, Inc. v. Aetna, Inc., 498 F.3d 1175, 1195 (10th Cir. 2007) (recognizing that double-blind study is seen as gold standard in medical industry). *But cf.* Ted J. Kaptchuk, *The Double-Blind, Randomized, Placebo-Controlled Trial: Gold Standard or Golden Calf?*, 54 J. Clinical Epidemiology 541, 541 (2001) (arguing that although double-blind, randomized, controlled trial is "gold standard," complete objectivity in research is impossible).

[158] Richard Snodgrass, *Single- Versus Double-Blind Reviewing: An Analysis of the Literature*, 35 SIGMOD Record 8, 18 (Sept. 2006) (reviewing literature and concluding that, "most scientific journals now employ double-blind reviewing"). *See generally* Nancy McCormack, *Peer Review and Legal Publishing: What Law Librarians Need To Know About Open, Single-Blind, and Double-Blind Reviewing*, 101 Law Libr. J. 59 (2009) (surveying types of peer review in legal journals).

[159] *See* Paul D. Carrington, *One Law: The Role of Legal Education in the Opening of the Legal Profession Since 1776*, 44 Fla. L. Rev. 501, 565 (1992) (discussing history of blind grading).

[160] McIntyre v. Ohio Elections Comm'n, 514 U.S. 334, 342 & n.5 (1995) (holding that "an author's decision to remain anonymous . . . is an aspect of the freedom of speech protected by the First Amendment").

that when investigators bring forensic samples into the crime lab, they must carefully limit the information they provide to the forensic scientists.[161] The theory is that "[a]n examiner who does not know what conclusion is hoped for or expected of her cannot be affected by those considerations."[162] This proposal seems to be gaining traction amongst forensic scientists,[163] although initial steps have been halting.[164]

In short, the concept of blinding is already well-developed in a variety of contexts. Blinds work as a form of tactical ignorance that prevents conflicting interests from creating biases.

B.   *Operationalizing the Blind in Litigation*

Although blind expertise may have application wherever experts render opinions under potential biases, civil litigation presents a particularly accessible area for initial study. Court cases are discrete occurrences with identifiable parties who have specifiable interests, working in a rule-governed space. This Section explores how the blind can be operationalized in litigation, focusing first on the roles of the blinding intermediary and the expert, second on the role of the sponsoring litigant exercising discretion in whether to retain and use the expert, and finally on the role of the court in facilitating the process.

1.   *The Roles of the Intermediary and the Expert*

The blind procedure would center on an intermediary agency that functions as a broker between sponsors of research (e.g., plaintiffs) and potential expert witnesses (e.g., doctors). The intermediary would be set up as a generalized infrastructure, not created on an ad hoc basis for particular cases. For now, assume that there would be a single intermediary for all cases, such as the American Association for the Advancement of Science (AAAS), that would be truly neutral with regard to the outcome of any case and would be accredited by the courts to ensure quality and to minimize the need for ex post monitoring. Indeed, the AAAS has already created such an infrastructure for judges to use in selecting neutral experts, though it has lan-

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[161] Risinger, *supra* note 41, at 45; *see also* Moriarty & Saks, *supra* note 46, at 27–28 (describing biases of expectation and suggestion in forensic science).

[162] Risinger, *supra* note 41, at 45.

[163] *See* Risinger, *supra* note 43, at 2 (quoting National Academy of Sciences report that calls for "standard operating procedures . . . to minimize, to the greatest extent reasonably possible, potential bias and sources of human error in forensic practice").

[164] *See* Craig M. Cooley, *Forensic Science and Capital Punishment Reform: An "Intellectually Honest" Assessment*, 17 GEO. MASON U. CIV. RTS. L.J. 299, 384 n.400 (2007) ("Until the forensic science community is better funded, it is safe to say [Risinger's] suggestions will not be implemented any time soon.").

guished for lack of use.[165] The infrastructure could be retooled for litigants' use instead.[166]

Alternatively, other not-for-profit or for-profit agencies could provide blinding services for litigants. For the model to be viable, however, the intermediary will need to aggressively maintain independence from the litigants, so as to avoid biases and signal to factfinders that it has done so. An advisory or governance board, consisting of plaintiffs' lawyers, defense lawyers, scientists, and judges may help in this regard.

The blind process would be initiated by a litigant, who would contact the intermediary and request an expert opinion on at least one aspect of his or her case, such as specific causation or damages. Although this service could be partially or completely subsidized by the government (for the purpose of improving the legal system), let us proceed on the assumption that it would be fee-based and that the intermediary would require the litigant to pay the intermediary's fee and the expert's fee, both in advance, before learning of the expert's identity or opinion. The intermediary would then provide two blinds: (1) a blind for litigants in retaining experts without selection bias, and (2) a blind for experts to render opinions without affiliation and compensation biases. Consider these functions in more detail.

First, the intermediary would select, through an unbiased mechanism, an expert that is qualified to render an opinion on the case. By avoiding selection bias, the sampled opinion will more likely be representative of the body of expert opinions than is the case under the status quo, where the hand-picked experts likely come from the extreme poles of expert opinions.

Prior to the selection, the litigant would identify the field of expertise and specify certain objective parameters for the desired expert (e.g., must be a board-certified neurologist and cost no more than $500 per hour). The sponsor could also identify additional criteria to avoid experts who may be already biased, for example, by previous interaction with the litigants.[167] Any such screening criteria will be subject to later impeachment by the adversary to ensure that

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[165] *See* sources cited *supra* note 138 (discussing these efforts).

[166] Under the status quo, there are also already agencies that provide expert brokerages for litigants, but apparently none attempt to eliminate litigant-induced biases. *See* Jonathan D. Glater, *More and More, Expert Witnesses Make the Difference*, N.Y. Times, Aug. 19, 2005, at C7 (describing "The Round Table Group" as one agency that "refers lawyers to experts of all sorts in its 65,000-person database" and "is paid if one of its experts is hired").

[167] *See* Runkle, *CASE*, *supra* note 138, at 142 (describing efforts to prescreen court-appointed experts on employment history, financial interests, and affiliations, and to limit experts' professional activities while retained).

they are not pretexts for biasing the selection, and the intermediary may also limit the types of screens allowed in order to preserve the integrity of the blinding process.[168] Finally, potential experts should be required to precommit to testify for either side as the facts warrant. After screening on these criteria, the intermediary would then select one of the qualified experts for an initial review of the case.

There are two ways that the intermediary could impartially select an expert. One way would be through random selection from a roster of qualified experts. This procedure would be most efficient in a context such as medical malpractice, where there is a significant amount of litigation and where there are potentially thousands of potential experts who would be qualified to opine on the standard of care. The advantage of this approach is that the roster could be created in advance based on purely objective criteria (e.g., including all those who are board certified neurologists in a jurisdiction and willing to be called as a witness). This method would allow for economies of scale, thus making it the less expensive option.

Alternatively, the blind expert could be hand-picked by the intermediary, using both objective and subjective criteria. To prevent such discretion from leading to a pro-plaintiff or pro-defendant bias, the intermediary could be bifurcated, separating the staff who deal with the attorneys from those who select and deal with the experts. Accordingly, the person selecting the expert would be unaware of whether the plaintiff or defendant was requesting the opinion. This approach would be necessary in fields where litigation is more rare or where the required expertise is extremely specialized, making it impracticable to create a roster ex ante. An advantage of this approach is that the intermediary could use some discretion and select experts with superior credentials and teaching abilities, who might be particularly persuasive at trial.

Second, the intermediary would blind the experts to minimize affiliation and compensation biases. The intermediary would develop and assign the expert's question, provide the expert with a dossier of the necessary materials to review, and pay the expert, all without the expert knowing the identity or interests of the sponsoring litigant.[169]

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[168] For example, the intermediary may need to monitor whether there is a correlation between fees charged and substantive opinions rendered, so that experts and sponsors are not able to signal to each other through their offers and demands and thereby create a selection bias.

[169] The expert will likely still be able to make generalized inferences in many cases. For example, a judgment that a doctor made a mistake that caused an injury would almost certainly benefit the plaintiff in any medical malpractice litigation. These sorts of "residual biases" are addressed in greater detail in *infra* Part III.B.2.

A key challenge at this stage will be for the intermediary to develop an unbiased litigation question and a dossier of the necessary predicate facts for the expert to review—one that is complete yet redacted of any biasing information. This stage will be self-policing to some extent because the adversary will eventually see that same dossier and will be able to impeach and undermine the blind expert's opinion if it was based on a skewed or incomplete set of predicate facts—indeed, the blind expert may even change his opinion upon learning the other side of the story.[170] In addition, the intermediary should encourage the expert to specify any other information that she needs to see (e.g., the results of a blood test mentioned in the records) before rendering her opinion.

After receiving the dossier and research question, the expert will record her opinion in a structured report, affirming that she has received all information necessary to render a final and complete opinion. The report will disclose all the factors she considered and relied upon and will specify a confidence level for her opinions. The intermediary will check that the expert's report is explicit, concrete, and complete; and if so, it will pay the expert for her time regardless of the substance of her opinion. The intermediary will then incorporate into the expert's report information about how many blind experts the sponsoring litigant consulted and how the blinds were implemented. Thereafter, the intermediary will convey the combined report to the sponsoring litigant.

2. *The Role of the Litigant*

When the sponsoring litigant receives the expert's report, he will assess its usefulness. The sponsor's assessment of the report will depend on the substance and tenor of the expert's opinions, along with the credentials of the expert and any other factors that may affect her persuasiveness at trial. On net, the litigant will determine whether or not this opinion is likely to be favorable for improving the value of his case, or whether it will instead be useless or harmful all things considered. Thus, the litigant transforms a complicated question into a binary one (usable or not usable).

Through careful application of the rules of disclosure and discoverability, the blind procedure protects the litigant's ability to make this choice. The goals are twofold: (1) to minimize the ex ante risk to

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[170] A litigant confident in the scientific merits of his case could inoculate his blind expert from this sort of challenge by first asking the adversary to provide any predicate facts that he wanted included or to review and object to the intermediary if any biasing information was included. Failure by the adversary to do so would presumably waive any objection at trial.

the litigant of using the blind procedure, and (2) to give the factfinder ex post the information it needs to assess whether the blind expert is truly free of bias. This Section argues that, when applied to the blind procedure, the *current* rules of disclosure, discoverability, and work product protection appropriately strike this balance.

Under the attorney work product doctrine, if a litigant consults with an expert but does not designate her as a trial witness, then the expert's opinions are generally not discoverable by the adversary.[171] The rationale for work product protection is to permit an attorney to "assemble information, sift what he considers to be the relevant from the irrelevant facts, prepare his legal theories and plan his strategy without undue and needless interference," allowing him "to promote justice and to protect [his] clients' interests."[172] There is no reason why this privilege would not apply to a consulting, non-testifying expert simply because she rendered her opinions from behind a blind.

Therefore, if a litigant commissions a blind expert to render an opinion and it turns out to be unfavorable, then the opinion will not be discoverable by the adversary. Accordingly, when a blind opinion turns out to be unfavorable, the sponsoring party has lost only the cost of the initial opinion (perhaps a few thousand dollars). The blind expert's opinion cannot hurt the sponsor. This is a critical point that will make the procedure attractive to rational litigants, and particularly attractive compared to court-appointed experts, for whom the disclosure decision is out of the litigants' control.

On the other hand, if the blind expert's opinion is favorable to the sponsoring litigant, then the litigant can retain the expert for testimony. If the litigant does so, she must disclose the expert and her report to the adversary, just as in normal litigation.[173] As noted above,

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171 According to Federal Rule of Civil Procedure 26:
  [A] party may not . . . discover facts known or opinions held by an expert who has been retained or specially employed by another party in anticipation of litigation or to prepare for trial and *who is not expected to be called as a witness* at trial. But a party may do so . . . on showing exceptional circumstances under which it is impracticable for the party to obtain facts or opinions on the same subject by other means.
FED. R. CIV. P. 26(b)(4) (emphasis added). As Samuel Gross notes:
  A party that takes full advantage of these [discovery] rules can "informally consult" with a dozen experts (a non-discoverable activity), retain the five experts who seem most promising (a generally non-discoverable activity), and, finally, at the last available date, designate the one of these five whose opinion is most favorable as an expert *witness* . . . .
Gross, *supra* note 4, at 1143.

172 Hickman v. Taylor, 329 U.S. 495, 511 (1947). *See generally* Sidney I. Schenkier, *The Limits of Privilege in Communications with Experts*, LITIGATION, Winter 2007, at 16 (discussing development and complications of work product doctrine as it relates to experts).

173 FED. R. CIV. P. 26(a)(2).

the report would include the intermediary's disclosures about how the blind procedure was implemented, which should then help persuade the factfinder that the blind expert is entitled to extra credibility. The adversary would test the robustness of the procedure, rendering the process largely self-policing.

To ensure that sponsoring litigants do not create an iterative selection bias by making multiple requests for blind opinions, litigants who do designate a blind expert for testimony would be required to disclose how many blind experts (in that same field) they consulted before selecting one.[174] Indeed, as noted above, this information would be included in the intermediary's report with each expert opinion. Of course this sort of disclosure is not required under the status quo. For the blind procedure, the disclosure requirement would arise from either of two existing exceptions to the work product doctrine. First, an opposing litigant could assert an "at issue" implied waiver of work product protection. The litigant that brings a blind expert, and thereby claims a lack of selection bias, cannot at the same time avoid discovery into selection bias.[175] Likewise, the potential for a litigant to claim falsely that there was no selection bias would be an "exceptional circumstance" allowing discovery under the Federal Rules.[176] It is worth emphasizing that it is not the litigant's decision to

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[174] *See* Posner, *supra* note 124, at 1541 (suggesting disclosure of names of all experts approached by attorneys as possible witnesses to "alert the jury to the problem of 'witness shopping'"). In practice, having to solicit and pay for multiple blind opinions may make that technique cost- or time-prohibitive, even aside from the discovery rule. Moreover, if blind experts have a high degree of accuracy, it would be unlikely that multiple random draws would pay off for a party advocating against the truth. Thus, the disclosure rule may not be strictly necessary, though it would prevent an inefficient arms-race.

[175] *See* United States v. Nobles, 422 U.S. 225, 239–40 (1975) ("The privilege derived from the work-product doctrine is not absolute. Like other qualified privileges, it may be waived. . . . Respondent, by electing to present the investigator as a witness, waived the privilege with respect to matters covered in his testimony. Respondent can no more advance the work-product doctrine to sustain a unilateral testimonial use of work-product materials than he could elect to testify in his own behalf and thereafter assert his Fifth Amendment privilege to resist cross-examination on matters reasonably related to those brought out in direct examination."); Fed. R. Evid. 502 (extending waiver of attorney work product protections to undisclosed information "only if: (1) the waiver is intentional; (2) the disclosed and undisclosed communications or information concern the same subject matter; and (3) they ought in fairness to be considered together"); *cf.* United States v. Bilzerian, 926 F.2d 1285, 1292 (2d Cir. 1991) (holding that attorney-client privilege "may implicitly be waived when defendant asserts a claim that in fairness requires examination of protected communications"); *Developments in the Law—Privileged Communications*, 98 Harv. L. Rev. 1450, 1637 (1985) ("It has become a well-accepted component of waiver doctrine that a party waives his privilege if he affirmatively pleads a claim or defense that places at issue the subject matter of privileged material over which he has control.").

[176] Fed. R. Civ. P. 26(b)(4) (allowing disclosure in "exceptional circumstances"); *see also In re* Welding Fume Prods. Liab. Litig., 534 F. Supp. 2d 761, 765, 768–69 (N.D. Ohio 2008) (holding that party that brings scholarly treatises into court under hearsay exception

purchase a blind opinion that pierces attorney work product protections; it is only the subsequent decision to designate a blind expert for testimony that does so.

Ex ante knowledge of this disclosure rule would generally deter litigants from iterative use of the blind procedure. For a litigant, there is little value in bringing a favorable blind opinion if he also must disclose the existence of one or more unfavorable blind opinions; he would be better off resorting to traditional unblind experts or settling the case. Indeed, if an initial opinion is unfavorable, each subsequent attempt to secure an opinion will promise diminishing returns, both in the likelihood of the next opinion being favorable and in the persuasiveness to the factfinder of any favorable opinion received.

Thus, for simplicity, assume that each litigant will make at most one attempt to secure a blind expert (for each type of expert in a case). Of course, both sides in the litigation may hire blind experts, but because the experts are rendering unbiased opinions, and presumably have some skill in assessing the truth, they will tend to agree. Thus, it will often be the case that only one side will have a favorable blind expert at trial, which will presumably give that side of a credibility advantage.[177]

It is also important to specify when and how the blind will be lifted. If the opinion is favorable to the sponsor, the litigant will retain the expert, designate him for testimony, and lift the blind prior to the expert's deposition by the adversary. The litigant will pay the expert for subsequent work—including depositions, trial preparation, and testimony—based on a prearranged fee schedule. One might worry that such affiliation and compensation will create the very biases that the blind sought to avoid, but the expert's initial opinions are already locked-in in her disclosed report, written before she ever learns of her sponsor. As such, subsequent biases will be significantly (albeit not entirely) mitigated. Experts will presumably tend to stick to their initial opinions (as the anchoring heuristic would predict), even when their sponsors try to bias them toward even more favorable extremes. If an expert does change her testimony, the adversary will use her initial report to impeach her on cross-examination.

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puts lack of bias in treatise at issue, and "extraordinary circumstance" exception makes discoverable any work product that shows payments made to authors).

[177] *Cf.* Posner, *supra* note 124, at 1538 ("If market incentives kept experts fully honest, defendants' lawyers would often not introduce expert testimony at all, because they would find it difficult to locate a reputable expert who would contradict the plaintiff's expert.").

3. The Role of the Court

The blind procedure is designed to work within existing institutions and procedures, requiring no major changes to substantive or procedural law. Still, there are a few measures that the courts should take to ensure that the blind procedure is workable.

First, the courts should make it a safe choice for litigants. I have shown that the current doctrine of work product protection should allow a litigant to consult a blind expert without risk of an adverse opinion hurting his case. Courts must adhere strictly to this interpretation of the doctrine and signal their intention to do so, perhaps by amending the federal or local rules of procedure. It will be important for litigants to know that not only will adverse blind opinions be nondiscoverable by the adversary, but also that the very fact that a blind expert was consulted will be protected from discovery.[178] In this way, litigants can be reassured that the worst-case scenario under the new procedure is that a blind opinion will be unusable.

Second, the courts should make the blind procedure attractive for litigants by allowing those who use blind experts at trial to use hired-gun experts as well. A blind expert will have additional credibility due to his lack of biases, but a hired gun may have other advantages, such as credentials, teaching skills, and the ability to stand up to tough cross-examination. The court should not force a litigant to choose. By allowing both types of experts on the same side, the court improves the ex ante incentives for litigants to use the blind procedure. Although an adversary may object that the additional expert is cumulative and therefore wastes time, the Federal Rules explicitly provide that when a court-appointed expert offers testimony, this does not preclude litigants from also offering their own hand-selected experts.[179] The same should be true for the blind procedure. In this way, factfinders can get the best of both worlds: persuasive advocates from both sides and an objective assessment of the truth.

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[178] If the opinion itself is nondiscoverable, there is no purpose in allowing discovery of the predicate fact that an expert was consulted but not called to testify, which would only create an adverse inference about that same opinion. Many (perhaps most) courts already protect not just the consulting experts' opinions but also their identities and the fact of their retention. *See, e.g.*, Ager v. Jane C. Stormont Hosp. & Training Sch. for Nurses, 622 F.2d 496, 503 (10th Cir. 1980) (holding that "the identity, and other collateral information concerning an expert who is retained or specially employed in anticipation of litigation, but not expected to be called as a witness at trial, is not discoverable" except per exceptions in Rule 26(b)); Cooper v. Paul Revere Life Ins. Co., 1997 WL 289706 at *1 (E.D. La. May 28, 1997) (describing this as predominant view among courts).

[179] FED. R. EVID. 706(d) ("Nothing in this rule limits the parties in calling expert witnesses of their own selection.").

Third, the courts should ensure that the blind procedure is robust and that litigants can present it effectively at trial. Adversaries will want to conduct discovery about the procedures used to select and communicate with a blind expert, and the court should allow these to some extent. However, courts should also be mindful of the need to minimize the burden on the intermediary.[180] In order to streamline the trial, courts may wish to handle these issues in the pretrial hearings (which are often required anyway to assess the admissibility of expert testimony under *Daubert*). Unless the court determines that there is a genuine issue about the quality of the blind, it would be a waste of trial time to pursue these issues. Once the court has made a preliminary determination that the blind procedure was properly implemented, the blind expert should be presented to the jury as such, with only limited cross-examination on those procedural points.

Fourth, courts should assist juries in understanding the differences between blind experts and traditional experts. Currently, courts explicitly instruct jurors to consider the biases of expert witnesses.[181] When a blind expert appears in trial, courts should issue a jury instruction that conveys the concept of blind expertise and explains why these experts may merit special consideration as compared to the other experts who were hand-selected by litigants and subject to affiliation and compensation biases.

There are many details to be worked out before implementing this procedure, including how blinds (of the litigant and of the expert) can be made both robust against manipulation and transparent to adversaries, as well as how the experts can be compensated for their work without introducing other biases. Part V.C returns to address some of these details.

C.   *The Blind Procedure as Truth-Signal*

This Section demonstrates that when one side in litigation uses a blind expert, that expert will be much more accurate than status quo unblind experts and just as accurate as a court-appointed expert would be. A probabilistic model of expert accuracy further demonstrates that when *both* adversaries use the blind procedure, the

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[180] If there are multiple competing intermediaries, more such discovery may be appropriate. If there is instead a single accredited and credible intermediary that is regularly monitored, such discovery could be limited.

[181] The Fifth Circuit's pattern instruction, for example, is the following: "In deciding whether to accept or rely upon the opinion of an expert witness, you may consider any bias of the witness, including any bias you may infer from evidence that the expert witness has been or will be paid for reviewing the case and testifying . . . ." O'MALLEY ET AL., *supra* note 103, § 103.01.

method enhances accuracy almost exponentially. This Section then provides a mathematical illustration of the argument.

1. *Accuracy of Blind Experts*

Suppose that there is a scientific proposition that is either true or false, such as the claim that a specified dose of some chemical causes a given disease (general causation). Now, suppose that when assessing such propositions, experts in their laboratories, clinics, and offices outside of litigation err at some "base rate" that is better (lower) than fifty percent.[182] For example, we might suppose that this base error rate is equal to five percent in some particular field of expertise.[183] Now suppose that this same scientific proposition is the central question in a litigated case. As described in Part I.B, status quo litigants will use selection and other biases to increase the error rates of their expert witnesses to fifty percent, at least on their binary bottom-line opinions about the proposition. In contrast, blind experts, who are not subject to these biases, retain their base rates of error (again, say five percent). Thus, while blind experts will still be fallible, juries can expect that they will be much more accurate—and thus much more credible—than unblind experts.

Nonetheless, one might worry that the work-product protections described above, which allow litigants to decide whether to bring blind experts to the jury only after learning of the substance of those opinions, will undermine the accuracy of blind experts. Recall that the disclosure rules described in Part II.B.2 effectively limit the litigant to a single blind expert. As I will demonstrate mathematically below, the litigants' discretion about whether to disclose opinions only reduces the frequency with which blind experts appear before factfinders. Like a treatise or a scientific instrument, the expert's opinion is what it is, and the litigant's subsequent decision to show it or not show it does not decrease the accuracy of the source itself. Thus, individual blind experts retain their base rates of accuracy in litigation.

Now, consider the accuracy of blind experts when both adversaries use the procedure independently. The "adversarial blind" (as this condition can be called) enhances accuracy even further, because it

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[182] *Cf.* Deason, *supra* note 123, at 101–16 (describing sources of expert error other than those caused by adversarial biases).

[183] Other ex ante error rates for blind experts are considered in the Appendix, *infra*. The five percent rate is a decent place to start, since it corresponds to the threshold for statistical significance used in the social sciences and is widely used in law. *See, e.g.*, Coser v. Moore, 739 F.2d 746, 754 n.3 (2d Cir. 1984) (accepting five percent "probability of occurring by pure chance" as benchmark for statistical significance and as "measure of validity"). *But see* Posner, *supra* note 124, at 1511 ("The five percent convention is rooted in considerations that have no direct relevance to litigation . . . .").

generates two independent unbiased expert assessments of the facts, rather than one. This effect is related to Condorcet's Jury Theorem.[184] In the vast majority of cases, both experts will agree on a truthful opinion, but only one side will find the opinion favorable and therefore disclose her blind expert. In the rarer cases, when one blind expert errs, her opinion will usually be contradicted by the adversary's expert, and neither or both will be disclosed to the factfinder. Only in the rarest cases will *both* experts err, resulting in an erroneous unrebutted opinion being disclosed to the factfinder. Thus, blind experts deserve great deference by factfinders, and courts should be reassured that when a blind expert appears, *Daubert* screening and court-appointed experts will be largely unnecessary to assure the validity of courtroom science.[185]

2.   *A Mathematical Illustration*

For an illustration of the fact-signaling function of the blind procedure, imagine a simplified case in which the only scientific question is whether a doctor met the standard of care in his treatment of the patient, and assume that the truth is on the plaintiff's side (i.e., the doctor was negligent). Each party will use the intermediary to retain one blind expert to review the case and will bring the expert to trial only if her opinion is favorable. Litigants with unfavorable blind expert opinions will hide them and proceed to trial with unblind experts instead. For now, assume that randomly selected and unbiased experts render opinions with an error rate of five percent. Given all these assumptions, each box in Table 1 represents a hypothetical trial outcome.[186]

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[184] *See* Adrian Vermeule, Foreword, *System Effects and the Constitution*, 123 Harv. L. Rev. 4, 13 (2009) ("In the simplest possible form, the Theorem states that where a group votes sincerely on two alternatives, one of which is correct, and the members of the group are even slightly more likely to be right than wrong, then as the number of members in the group increases, the probability that a majority vote of the group is correct tends toward certainty."); *see also* Koppl et al., *supra* note 26, at 146 (describing similar phenomenon with experts whose accuracy is function of their numbers).

[185] For a more extended discussion of this point, see *infra* Part V.A.

[186] For now, set aside the potential for the parties to avert trial by settling, since any such settlement would be made in the light of these hypothetical trial outcomes anyway.

Table 1
Accuracy of Blind Experts as Fact-Signals

	Defendant's Blind Expert says "no malpractice," so Defendant discloses. (5%)	Defendant's Blind Expert says "malpractice," so Defendant hides. (95%)
Plaintiff's Blind Expert says "no malpractice," so Plaintiff hides. (5%)	One Blind Expert (False Signal) Odds: 0.25%	No Blind Experts (No Signal) Odds: 4.75%
Plaintiff's Blind Expert says "malpractice," so Plaintiff discloses. (95%)	Two Blind Experts (No Signal) Odds: 4.75%	One Blind Expert (True Signal) Odds: 90.25%

Consider each outcome. In the top right scenario (4.75% of the time), a meritorious plaintiff retains a blind expert but unfortunately has a blind expert that renders a wrong opinion. The defendant's blind expert correctly informs the defendant that the plaintiff should win this case, so the defendant does not disclose the opinion. As a result, both sides suppress their blind experts and the trial will involve traditional unblind experts; this is no worse than the case of traditional litigation (though money will be wasted). In the bottom left scenario (4.75% of the time), the situation is reversed; both parties get favorable opinions, and the jury is faced with a blind expert on each side. In these two situations where the blind experts disagree, the procedure sends no signal.

The signals are in the top left and bottom right quadrants. In these two boxes, both experts agree, but the jury only hears from one of them. Because one side's opinion is unfavorable to it, that side proceeds (if at all) with a traditional, unblind expert. Thus, 90.25% of the time, the jury will hear from a blind expert supporting the true side, and 0.25% of the time, it will hear from a blind expert on the false side.

So, if there are 400 cases in which the adversarial blind procedure is used on the foregoing assumptions, there will be 38 cases in which the procedure sends no signal, 361 cases in which the blind procedure sends a true signal, and only one case in which it sends a false signal. Thus, of the 362 cases in which the procedure sends a signal, only one of those will be a false signal, giving the procedure a 0.28% error rate.[187] As such, one can see that allowing litigants to hide unfavorable opinions does not hurt accuracy. Rather, the adversarial blind

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[187] See equation (1) and Table 5 in the Appendix, *infra*, for further elaboration on this point.

procedure *improves* the accuracy of experts, reducing their error rates from 5% to 0.28%. This is a significant advantage of the adversarial blind procedure, compared to court-appointment using single experts with 5% error rates. And of course, a 0.28% error rate for blind experts is much better than the 50% error rate of traditional litigation experts. Thus, a blind expert deserves very strong deference by the factfinder.

Still, the blind procedure only eliminates certain litigant-induced biases; it does not somehow guarantee truth. Until now, we have postulated that blind experts will err five percent of the time in their initial opinions, but this is a relatively arbitrary assumption. The true rate will vary across scientific disciplines and across particular cases. However, the basic conclusions—that blind experts are more reliable than court-appointed and traditional experts—hold as long as the expert error rate is less than 50% (random chance). For example, even at a 25% ex ante error rate, the blind procedure sends signals to juries 62.5% of the time, and the signals will be accurate 90% of those times.[188]

It is noteworthy that as the ex ante error rate increases, it creates more situations in which two blind experts disagree, and thus the blind procedure becomes less attractive as an investment for litigants. This is because the procedure sends no signal when the two experts disagree, yet litigants still have to pay for the initial opinions. Thus, litigants have the greatest incentives to hire blind experts on questions for which they believe the experts are highly accurate. And, of course, litigants who know that the truth is favorable will be most likely to commission blind opinions in the first place. This incentive structure should further reassure factfinders of the reliability of the blind experts that do appear in court.

With regard to accuracy, it is also important to emphasize that the proposed blind procedure would require experts to disclose degrees of confidence in their reports, and the adversaries will presumably draw special attention to these disclosures when the confidence is low. Such disclosure is valuable in three ways. First, adversaries will use these disclosures to ensure that experts do not become more strident in their opinions once they learn of their sponsors. Second, the confidence levels allow the factfinders to calibrate their reliance. If the blind experts are accurate in their assessments of confidence in their own opinions, then opinions rendered with low confidence deserve

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[188] See the Appendix, *infra*, for more detailed mathematical analysis. Table 5 shows the results for other postulated values.

less deference.[189] Third, rational litigants may choose to discard some favorable opinions in which the expert discloses low confidence, or the courts may exclude them if they lack a reasonable degree of scientific certainty. This screening increases the accuracy of blind experts that appear at trial.[190]

Overall then, the blind procedure provides a valuable truth signal. Blind experts are clearly more reliable than status quo hired-gun experts, regardless of whether one or both of the litigants try the procedure. If both litigants try the procedure, it becomes a particularly reliable signal of the truth, more accurate than court-appointed experts. Thus, if factfinders followed them, blind experts would likely improve the accuracy of the legal system, helping it better serve its goals of deterrence, compensation, and, when appropriate, punishment.

III
Blind Expertise in Medical Malpractice Litigation

Medical malpractice litigation ("med-mal") provides a useful domain for modeling the blind procedure. Expert witnesses play an especially important role in med-mal cases, as litigants generally must bring at least one expert to testify as to whether the defendant met the standard of care.[191] Moreover, some commentators argue that judges in med-mal perform a less rigorous gatekeeping function.[192] Thus, blind experts may be especially helpful in this context if they provide better truth signals to factfinders.

Section A uses some data about med-mal litigation to model the potential utility of the blind procedure. Section B explains why one might expect blind experts to be particularly valuable in med-mal litigation for articulating the standard of care, which is usually defined in terms of customary practice. It also addresses the concern that med-mal experts may be subject to unusually strong biases to protect fellow

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[189] Some evidence suggests that experts will be accurate in these self-assessments. *See* David M. Studdert & Michelle M. Mello, *When Tort Resolutions Are "Wrong": Predictors of Discordant Outcomes in Medical Malpractice Litigation*, 36 J. Legal Stud. S47, S57 (2007) (explaining that when independent reviewers of medical malpractice cases disclosed lower levels of confidence, they in fact tended to show less agreement with each other, which thus suggests less reliability). *But see infra* Part V.C.2 (discussing potential bias toward extremes or higher confidence).

[190] On the other hand, litigants are also more likely to settle cases that have very confident blind experts, and thus juries may not see those cases.

[191] Gary T. Schwartz, *Empiricism and Tort Law*, 2002 U. Ill. L. Rev. 1067, 1071.

[192] *E.g.*, Tim Cramm et al., *Ascertaining Customary Care in Malpractice Cases: Asking Those Who Know*, 37 Wake Forest L. Rev. 699, 707 (2002) (describing judges' "laissez-faire approach to malpractice experts").

professionals from liability. Finally, Section C compares the blind procedure to other proposals for med-mal reform.

A. Modeling the Potential Impact of the Blind Procedure

Medical malpractice is one of the most studied areas of litigation, so we thankfully have data to drive our analysis. In one major study, David Studdert and Michelle Mello examined 1452 closed malpractice claims—fifteen percent of which were decided by trial verdict—from five insurers. They used a team of disinterested physicians to determine whether or not medical error had occurred in each case (arguably the "truth"), and they compared those assessments with whether or not the insurer paid each claim (the "outcome").[193] They were looking for "discordant outcomes"—payments in cases where the independent reviewers concluded that there was actually no malpractice, and nonpayment in cases where the reviewers found genuine malpractice.[194] Studdert and Mello were operating under the assumption that when an independent physician reviews a case and disagrees with a jury that heard from two hired guns, the independent physicians are right and the jury is wrong.[195] Although reasonable, this assumption would seem to be impossible to prove. While accepting Studdert and Mello's descriptive claims for the sake of analysis, the prescriptive and predictive portion of this Article proceed on the more conservative assumption that when *two* independent experts

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[193] Studdert & Mello, *supra* note 191, at S53–S58. Of course, the Studdert and Mello analysis joins the legal system and this Article in presuming that there is an actual truth in each of these cases, a truth that the jury is either hitting or missing. *See id.* at S48 (describing inaccuracy of tort system in which malpractice claims are rightly decided only 75% of the time). This presumption gains some support from the fact that the independent reviewers assessed only 23% of the cases as "close calls," *id.* at S59, and that interrater reliability was "substantial." *Id.* at S57; *see also supra* Part I.A (explaining assumption of actual truth); *infra* Part V.B (loosening that assumption).

[194] Studdert & Mello, *supra* note 191, at S57. Studdert & Mello's reviewers were instructed to look for "medical error" (as defined by the Institute of Medicine) rather than "malpractice." "In theory, [error] is not synonymous with the legal concept of negligence, which is the focus of the malpractice system." *Id.* at S72. While acknowledging this theoretical distinction, I nonetheless use the term "malpractice" so as to distinguish mistakes made by defendants ("malpractice") and those made by experts and juries ("errors"). Also, while Studdert and Mello's working definition of "medical error" is based on the National Institute of Medicine's standard—which defines a medical error as a failure of planning or a failure of execution, *id.* (citing IOM Report, *supra* note 24)—there is some debate over whether experts can reliably determine causation, which is an essential element of a legal claim of malpractice. *See* Troyen A. Brennan, *The Institute of Medicine Report on Medical Errors—Could It Do Harm?*, 342 New Eng. J. Med. 1123, 1123 (2000) (asserting that "there is no evidence that such judgments can be made reliably").

[195] This analysis depends on the discussion in Part I, *supra*, which showed why counterpoised hired guns provide poor guidance to juries.

review a case and both agree with each other but disagree with a jury deciding on the basis of two hired guns, the two independent experts are right and the jury is wrong.

Although Studdert and Mello's independent reviewers found that nearly two-thirds of the cases in the insurer's database involved genuine malpractice (and 44% of those that went to trials involved genuine malpractice) plaintiffs won far fewer cases than they should have.[196] Studdert and Mello concluded that "[r]esolution [of a case] by trial verdict was the single strongest predictor of nonpayment of a meritorious claim."[197]

TABLE 2
MEDICAL MALPRACTICE TRIALS REPORTED IN
STUDDERT & MELLO (2005)[198]

Truth*		Jury Outcomes	
Malpractice	91 (44%)	Plaintiff wins	39 (43%)
		Defendant wins**	52 (57%)
No Malpractice	117 (56%)	Plaintiff wins**	11 (9%)
		Defendant wins	106 (91%)
Accuracy of Outcomes			70% (145/208)

* According to disinterested reviewers
** Discordant outcome

Table 2 shows these disparities for the 208 cases that went to trial. Ideally, once a trial has reached the jury stage, plaintiffs should win in all cases in which there was real medical malpractice, and defendants should win all cases in which there was no malpractice.[199] In fact, plaintiffs won only 43% of the cases where the independent reviewers

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[196] Studdert & Mello, *supra* note 191, at S59, S63.

[197] *Id.* at S65. Presumably this correlation also drove down the amount of any settlements, which are usually made in light of the expected value of a case if it had gone to trial.

[198] Results are from Studdert & Mello, *supra* note 191, at S63 tbl.3 (2007). The numerical jury outcomes are reverse-calculated from the percentages given by Studdert and Mello. The nine percent discordant outcome in no-malpractice cases is consistent with either ten or eleven discordant outcomes, but I have used eleven for the sake of simplicity. Using ten discordant outcomes would reduce total accuracy to 69%, instead of 70%. This difference does not affect the broader argument.

[199] There could, however, be other legal issues, such as the statute of limitations, which reach the jury and cause them to find for the defendant on a claim that otherwise should have gone to the plaintiff based on the scientific merits alone.

found actual malpractice. In contrast, when there was no malpractice, defendants won 91% of the time.[200] Contrary to the alarmist claims made by the American Medical Association (AMA) and malpractice insurers,[201] juries appear to have a pro-defense bias. Other studies have reached similar results.[202]

Although these findings may be surprising, they are perfectly consistent with the story told in Part I. To a layperson, a hired gun arguing for the truth looks quite like a hired gun arguing against the truth; they present no real signal. Thus, the counterpoised hired guns often leave lay factfinders in equipoise. Juries are instructed that plaintiffs bear the burden of proving their cases by a preponderance of the evidence, such that a jury in equipoise must return a judgment in favor of the defendant.[203] Thus, in a world of hired-gun-versus-hired-gun cases with this default rule, we should not be surprised to find defendants winning a disproportionate share of the cases.

The Studdert and Mello data shows a 70% overall accuracy of outcomes. This is somewhat better than randomness but still far from ideal. This data can be used to model the potential impact of the blind procedure, assuming (a) that each litigant had tried the blind procedure and presented the blind expert's opinion to the jury if favorable, and (b) that the jury would find the blind expert's testimony more persausive than that of the hired gun brought by the other side. The reasonableness of these assumptions is shown in Part IV below. Further assume a 5% error rate, as in Table 1 above. Thus, as in Table 1, a sole blind expert will appear and reveal a truthful opinion to the jury 90.25% of the time and lead them astray 0.25% of the time. If we apply these figures to each row in Table 2, we redistribute 90.25% of the discordant cases to the correct outcome and 0.25% of the concordant cases to the incorrect outcome. In no-signal cases, for simplicity,

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[200] Although Studdert and Mello did not report the significance of this disparity, a Fisher exact test shows that this is a highly significant difference ($p < 0.0001$). The null hypothesis, that plaintiffs and defendants have the same win rate for the cases they should win, can be rejected. Studdert and Mello also used a sensitivity analysis to exclude close cases (those rated three or four on the six-point scale used by independent reviewers) and found their results mostly unchanged. Studdert & Mello, *supra* note 191, at S60–S61.

[201] *See* VIDMAR, *supra* note 9, at 3–8 (reviewing calls by American Medical Association and others for reform of jury system, based on perception of overly plaintiff-friendly juries).

[202] *See infra* note 220.

[203] The Eighth Circuit's pattern instruction on "preponderance of the evidence," for example, includes: "If, on any issue in the case, the evidence is equally balanced, you cannot find that issue has been proved." O'MALLEY ET AL., *supra* note 103, § 104.01, at 137.

assume that the blind procedure would not change the outcome.[204] As shown in Table 3, blinding is a powerful tool: Total outcome accuracy would potentially increase from 70% to 97%.

TABLE 3
MEDICAL MALPRACTICE TRIALS WITH
SIMULATED BLIND PROCEDURE

Studdert and Mello's Data				Blind Procedure Simulation	
Truth		Jury Outcomes		Contrary Signals	New Jury Outcomes
Malpractice	91 (44%)	P wins	39 (43%)	0 ($0.25\% \times 39$)	86 (95%)
		D wins	52 (57%)	47 ($90.25\% \times 52$)	5 (5%)
No Malpractice	117 (56%)	P wins	11 (9%)	10 ($90.25\% \times 11$)	1 (1%)
		D wins	106 (91%)	0 ($0.25\% \times 106$)	116 (99%)
		Accuracy	70%	Accuracy	97%

This table gives the basic case for how the blind procedure can dramatically improve outcome accuracy in medical malpractice litigation. If the procedure were used widely, and if juries did follow the opinions of blind experts, the procedure would redistribute billions of dollars of medical malpractice verdicts and settlements away from parties that do not deserve them and toward parties that do deserve them, thus improving both the deterrence and compensation functions of the tort system. Presumably, this effect will also improve the outcomes of cases that parties settle based on predicted trial outcomes.[205]

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[204] For the bottom-left box of Table 1, where both parties try the procedure but neither discloses a blind expert, this scenario would not change the jury's outcome compared to the status quo, since the jury would not even know that the litigants had tried the blind procedure. In the top-right box of Table 1, where both parties try the procedure and both disclose favorable opinions, this situation would arguably not change the jury's decision compared to the status quo, since the counterpoised blind experts would cancel each other out just as hired guns do. On the other hand, one might suppose that a blind-versus-blind situation would be even more favorable to the defendants than a hired-gun-versus-hired-gun situation, if it more deeply entrenched the sense of equipoise. If so, then the blind procedure would have a slightly less salutary effect on the accuracy of outcomes. In the model below, the defendants would potentially steal two of the cases from the plaintiffs in the first row ($4.75\% \times 39$), and turn them into discordant outcomes. Overall outcome accuracy under the blind procedure would then be 96% rather than the reported 97% in Table 3.

[205] *See infra* Part IV.C (discussing settlement behavior).

Thus, settlements, like trial outcomes, will more closely correspond to the true values of the cases.

B. *Special Issues with Expert Accuracy in Med-Mal*

This Section argues that blind experts may be particularly accurate in the med-mal context because of the relative absence of doctrinal error (as a matter of law) in medicine compared to other fields. On the other hand, however, blind experts may be less accurate in the med-mal context if they succumb to the residual bias of protecting their fellow physicians.

1. *The Absence of Doctrinal Error*

Doctrinal error occurs when an expert correctly reports the scientific consensus (or doctrine) on a litigation question, but the consensus is actually wrong. This subsection explains why this particular type of expert error is legally impossible for med-mal experts in most jurisdictions.

For an example of doctrinal error, consider that until 1982, the scientific consensus held that excess acidity caused stomach ulcers, and thus doctors routinely prescribed antacids.[206] Experts testifying to this effect prior to 1982 might have been accurately reporting the scientific consensus at the time, but those honest and competent experts would later be proven wrong by a Nobel Prize–winning discovery that a strain of bacteria actually caused many ulcers.[207]

Despite the possibility that current scientific knowledge could someday be proven wrong, under most state medical malpractice laws, doctors are held to a "standard of care" defined by the customary practice of other doctors.[208] Other states use a "reasonable doctor" standard, which likewise is shaped by current medical knowledge.[209] For these sorts of questions, the effective error rates of blind experts

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[206] Paul Thagard & David Croft, *Scientific Discovery and Technological Innovation: Ulcers, Dinosaur Extinction, and the Programming Language Java*, *in* MODEL-BASED REASONING IN SCIENTIFIC DISCOVERY 125, 125–27 (Lorenzo Magnani et al. eds., 1999).

[207] *Id.*; *see also* The Nobel Prize in Physiology or Medicine 2005, http://nobelprize.org/nobel_prizes/medicine/laureates/2005/ (last visited Nov. 13, 2009) (announcing award of Nobel Prize in Medicine for discovery of role of *Heliobacter pylori* in ulcers). For another example, see Haack, *supra* note 19, at 998, which explains that it took thirty years for Watson and Crick's model for structure of DNA to become "the standard, well-accepted view."

[208] *See* Cramm et al., *supra* note 194, at 702 (noting that professional custom defines standard of care in most states). *But see infra* note 290 and accompanying text (discussing minority of states that allow juries to decide reasonableness without regard to customary practice).

[209] *See* Philip G. Peters, Jr., *The Quiet Demise of Deference to Custom: Malpractice Law at the Millennium*, 57 WASH. & LEE L. REV. 163, 180–87 (2000) (describing states that have

in medical malpractice cases will get even closer to zero, since doctrinal error is logically impossible.[210] In med-mal cases, the blind expert must only report the consensus of the field and apply it to the particular case. This analysis suggests that the effective error rates of blind experts on such questions will be quite low.

2. *Residual Bias*

On the other hand, one might worry that, compared to other fields of litigation, blind experts in medical malpractice will be biased against finding malpractice, due to their allegiance to other physicians. This problem of "residual bias" would also infect court-appointed medical experts or medical screening panels. To some extent, it even shapes the pool of experts in the adversarial system.[211] In the following six points, this subsection addresses this potential problem for the blind procedure in the med-mal context.

First, the blind procedure might avoid residual bias by requiring a precommitment by the experts to testify for either side, which may cause biased but self-aware experts to exclude themselves from the pool. The litigants and the intermediary would also screen out those with apparent biases, either from the entire pool of experts or on an ad hoc basis. For example, the intermediary could exclude from the pool any expert whose ratio of past testimony is extremely lopsided. Such a screening policy could exclude, for example, those experts whose ratio of favoring one side over the other is more than two standard deviations outside the mean ratio for all such experts. In this case, it is the experts' partisanship that is measured, not their relationship to the truth. Some data suggests that such a screening rule may exclude most of the experts that frequently testify under the status quo.[212] In some highly specialized fields of expertise, where the

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adopted a "reasonable doctor" standard without rejecting a "custom-based standard of care").

[210] *But see* Cramm et al., *supra* note 194, at 710 (arguing that even medical experts "can only guess at customary practice").

[211] As authors of one treatise worry, "The well known reluctance of doctors to testify against one another . . . may . . . effectively deprive the plaintiff of any remedy for a real and grievous wrong." W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 32, at 188 (5th ed. 1984); *see also* Trull v. Long, 621 So. 2d 1278, 1279–81 (Ala. 1993) (collecting cases on alleged "conspiracy of silence"). On the other hand, there are anecdotal accounts to the contrary, such as that radiologists "in both academic and private practice available to serve as plaintiffs' expert witnesses are plentiful. Actually . . . defense attorneys . . . have the greater difficulty finding experts." Leonard Berlin, *Expert Testimony: A Contrary Perspective from the Trenches*, 2 J. AM. C. RADIOLOGY 131 (2005).

[212] *See, e.g.*, Kesselheim & Studdert, *supra* note 88, at 275 (showing that only 21% of frequent experts in neurologic birth injury cases "approached an even split of their caseload between plaintiffs and defendants").

experts are already polarized, such screening may eliminate the entire pool of blind experts, making the procedure unworkable.

Second, even for an expert inclined to favor the plaintiff or the defendant, the intermediary will sometimes be able to frame and sequence the questions posed to the blind expert in ways that make it impossible for the expert to implement that favoritism. Especially when the standard of care is the primary question in dispute, the intermediary can frame the questions in general or hypothetical form, so that the expert does not know whether the defendant did or did not perform the appropriate procedures and thus does not know whether an accurate report of the standard of care will be helpful or hurtful to the defendant.

Third, the change from being hired guns to being objective expert reviewers—analogous to peer reviewers in academia—may change the norms of the expert industry in a way that reduces bias. Whether this sort of reframing will change behavior is an empirical question, but "[s]ocial psychologists have long understood that role schemas— the norms, customs, and responsibilities that we associate with various jobs and functions—powerfully influence the people who take on particular roles."[213]

Fourth, there are likely other psychological biases that counteract any temptation to favor fellow physicians. One is known as "idealization bias"—the tendency of persons to believe that they are better than average at performing some task, which thus makes persons judgmental of others.[214] For example, "most drivers overestimate their abilities and believe that they have a better chance to avoid a serious accident than others."[215] This phenomenon has also been documented among physicians.[216]

Fifth, we do have some evidence that even if experts are biased toward defendants, they are less biased than juries, making blind experts still conducive to improved outcome accuracy. The physician reviewers in the Studdert and Mello study were working in a framework not unlike the blind procedure, and they found that 44% of the tried cases involved bona fide medical malpractice, while the juries

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[213] Benforado & Hanson, *supra* note 130, at 351.

[214] *See* Cramm et al., *supra* note 194, at 743 (describing observations of idealization bias).

[215] *Id.*

[216] *Id.* Another counteracting influence is hindsight or outcome bias, which is the effect that knowledge about the outcome of an action has on judgments of that action. *See* Vidmar, *supra* note 9, at 165–66 (discussing hindsight bias among expert reviewers). When a reviewing physician knows that the plaintiff is injured, it is tempting to assume that an error was made in treatment. *But see* Cramm et al., *supra* note 194, at 737–38 (describing hindsight bias, but not observing it in survey of physicians).

found for the plaintiffs only about 20% of the time.[217] Indeed, there are many similar studies, covering thousands of actual medical malpractice cases, in which independent physician reviewers assessed whether medical malpractice had occurred.[218] Scholars reviewing this literature conclude that affiliation bias "does not appear [to have had] any significant effect" on physician assessments.[219] Still, one might worry that blind experts will be more biased than these academic reviewers because blind experts will know that their opinions could be revealed to, and used against, fellow physicians. The data admittedly do not fully address this issue.[220]

Sixth and finally, the *adversarial* use of the process will tend to cancel out experts suffering from residual biases. Recall that the blind procedure only sends a signal when *two* independent experts agree, which tends to cancel out errors made by one expert. Thus, even with a sizeable amount of expert error attributable to residual bias, the procedure will still sometimes help accuracy, but will rarely hurt it, making a positive contribution on net.[221] As an illustration, Table 6 in the Appendix models the blind procedure using Studdert and Mello's data, with an assumed residual bias of 30%, meaning that three in ten of the blind opinions will be favorable to defendants regardless of the facts of the cases. Even with this assumption, the blind procedure can still potentially improve overall outcome accuracy from 70% to 84%.

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[217] Studdert & Mello, *supra* note 191, at S63 tbl.3 (showing juries finding for plaintiffs in 24% of cases); *id.* at S58 (stating that plaintiffs prevailed in 19% of trials). The disparity may reflect differences in methodology between the two analyses.

[218] *See, e.g.*, FRANK A. SLOAN ET AL., SUING FOR MEDICAL MALPRACTICE 167 tbl.8.2 (1993) (finding in sample of thirty-seven cases decided by jury verdict that independent reviewers disagreed with pro-defendant verdicts more frequently than with pro-plaintiff verdicts); Bryan A. Liang, *Assessing Medical Malpractice Jury Verdicts: A Case Study of an Anesthesiology Department*, 7 CORNELL J.L. & PUB. POL'Y 121, 135–36 & n.43 (1997) (describing group of academic anesthesiologists who reviewed twelve malpractice cases and showed "a significant propensity . . . to be extremely critical of the defendant anesthesiologists in the cases"); *see also* Mark I. Taragin et al., *The Influence of Standard of Care and Severity of Injury on the Resolution of Medical Malpractice Claims*, 117 ANNALS INTERNAL MED. 780 (1992) (finding that insurance reviewers "determination of physician care was a good predictor of the outcome of a case").

[219] Cramm et al., *supra* note 194, at 741.

[220] Future studies could explore the opinions of court-appointed experts in med-mal cases, which may be more closely analogous to blind experts.

[221] Of course, this depends on the size of the residual biases, an empirical question. If it turned out that, say, 90% of all blind opinions were dogmatically biased toward the defendants (and plaintiffs were unable to explain this problem to juries), then the blind procedure would worsen outcome accuracy. But it is worth noting that current data does not support the existence of such rampant bias.

C. The Blind Procedure as Med-Mal Reform

Prominent critics of the med-mal litigation system complain about "the litigation lottery,"[222] which results in "jackpot justice."[223] Others complain that "[j]ustice today . . . is basically random. . . . Meritorious cases often lose or are settled on the cheap. [Yet] . . . doctors who did nothing wrong are often hit with huge verdicts."[224] This Part has shown that blind experts are likely to increase outcome accuracy, which is precisely our desideratum for reforms of medical malpractice. Yet, many of the other proposed reforms do not serve that goal as well or as directly.

Compare this fact-seeking reform to arbitrary caps on damages that disregard the merits of individual cases.[225] As other scholars have explained, such crude policies will not solve what ails the med-mal liability system, but will only "worsen the problem of under-compensation . . . [and] weaken providers' incentives to protect patients from avoidable perils."[226]

The presumed motivation for damages caps—to prevent undeserved windfall jury awards—can also be served by the blind procedure. At least for the economic portion of a damages award, judges already have the power to overturn or reduce any award that is unsupported by the evidentiary record.[227] When a runaway jury awards outsize economic damages that survive judicial review, it is thus presumably following the advice of a runaway expert witness. When a hired gun estimates how much money it will take to compensate the plaintiff over the course of his or her entire life, there is a huge potential for bias since the testimony is more-or-less speculative. (What will happen ten years hence and how much will it cost?) With the litigant-induced biases removed, blind experts testifying about damages will instead tend to have a much narrower range of opinions, clustering around the true value.

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[222] Office of Disability, Aging and Long-Term Care Policy, U.S. Dep't of Health & Human Serv., Addressing the New Health Care Crisis: Reforming the Medical Litigation System To Improve the Quality of Health Care 13–14 (2003), *available at* http://aspe.hhs.gov/daltcp/reports/medliab.htm.

[223] McQuillan et al., *supra* note 3.

[224] Troyen A. Brennan & Philip K. Howard, Op-Ed., *Heal the Law, Then Health Care*, Wash. Post, Jan. 25, 2004, at B07.

[225] *See* David A. Hyman & Charles Silver, *Medical Malpractice Litigation and Tort Reform: It's the Incentives, Stupid*, 59 Vand. L. Rev. 1085, 1131 (2006) (reporting that thirty states have imposed damages caps).

[226] *Id*. at 1087.

[227] *See* Gasperini v. Ctr. for Humanities, Inc., 518 U.S. 415, 433 (1996) (explaining judges' "discretion includes overturning verdicts for excessiveness and ordering a new trial without qualification, or conditioned on the verdict winner's refusal to agree to a reduction (remittitur)").

Thus, if used by the litigants, blind experts will help prevent juries from running away with outlier verdicts. On the other hand, plaintiffs may be less inclined to use blind experts in this context, and some defense attorneys may make the strategic decision not to offer a damages expert at all. Moreover, non-economic damages (e.g., pain and suffering) would not seem to be as sensitive to the quality of expert testimony. Thus, the impact of the blind procedure on the amount of damages awarded is likely to be positive but limited.

Next, compare the blind procedure to the laws enacted in thirty-one states that require patients to submit their claims to medical screening panels before litigating their claims in court.[228] Eleven of these states have already repealed or invalidated such laws due to a variety of problems, including the severe delays and expenses of forcing parties to litigate the same issues twice.[229] Moreover, even these panels presumably need expert truth-signals to do their jobs. Some of these panels include seats for laypersons, and it is unlikely that even the doctors sitting on panels will have the requisite expertise in the particular medical specialty in dispute in any given case.[230] It may be simpler to replace the screening panels that exist in these states with blinding intermediaries who could help the litigants screen their own cases with the benefit of blind experts.[231]

Similarly, some scholars and advocates have proposed creating specialized health courts.[232] The central idea is to remove decisions from the jury and instead empower specialist judges to find the facts, because they would presumably be better equipped to do so.[233] Yet these judges, who will likely be lawyers, not doctors—much less experts in every field of medicine—will still need expert truth-signals to resolve cases. Moreover, these judges may also be more susceptible to interest group pressures than randomly selected jurors are.

In short, the blind procedure may ameliorate the need for some of these other reforms, as it provides an effective means of improving the accuracy of litigation outcomes without the undesired side effects

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[228] *See* Struve, *supra* note 99, at 988–96 (describing panel systems that exist in thirty-seven states and criticizing that system from policy perspective).

[229] *Id*. at 990–93.

[230] *Id*. at 991, 995.

[231] For a more complete discussion of the screening function of the blind procedure, see *infra* Part IV.C.

[232] Struve, *supra* note 99, at 996–98; *see also* Fair and Reliable Medical Justice Act, S. 1337, 109th Cong. § 3(d)(4)(B) (2005) (proposing creation of health courts presided over by judges "with health care expertise" but who only need to "meet applicable State standards *for judges*" (emphasis added)).

[233] Struve, *supra* note 99, at 998. *But see supra* notes 104–06 and accompanying text (casting doubt on claim that judges have comparative advantage over laypersons).

of other proposed reforms. Furthermore, the blind procedure will likely improve the performance of these alternative efforts.

The foregoing discussion suggests that blind expertise should become a central part of the debates about medical malpractice reform. Rather than overhauling the system of medical malpractice litigation (a risky, expensive, and politically daunting proposition), it may be more sensible to seek systemic improvement by simply investing in the creation of the blinding intermediary and the pool of willing neutral experts.

As the next Part shows, one particularly important advantage of the blind procedure is that it can be implemented *by the litigants themselves* (once the intermediary is created). Unlike most other proposals for med-mal reform, there is no need to wade into interest-group politics in order to build the political will to legislate reform of the litigation system.

IV

STRATEGY FOR RATIONAL LITIGANTS

This Part shows that the blind procedure is a prisoner's dilemma: *Both* sides want to be the only one *with* a blind expert, and *neither* side wants to be the only one *without* a blind expert. As a result, it is rational for both parties to commission a blind opinion. The procedure is also a diagnostic device useful for selecting cases and for moving parties toward settlements.

A.   Costs and Benefits for Litigants

For a rational litigant, the decision of whether to commission a blind opinion will depend upon its probabilistic costs and benefits. There are several variables, including the fees that expert witnesses charge, the transaction costs imposed by the intermediary, the error rates of blind experts, the perceived likelihood that the scientific reality is favorable to the litigant, the amount at stake in the litigation, and the amount of additional persuasiveness that blind experts will have with juries relative to unblind experts.

For illustration, I consider each variable in turn and postulate some reasonable values for each. Although we have some data for these variables and can offer decent estimates for others, it turns out that the basic rationality of the procedure depends more upon the logic of the adversarial setting than it does upon any particular variables. The costs could be double what I here postulate, and the benefits halved, and the blind procedure would remain a rational strategy.

1. *Costs of the Blind Procedure*

First, consider the costs. Experts must be paid a fee to review a case and render their initial opinions, regardless of whether they do so behind a blind. In a med-mal case, for example, one might send the medical records to an expert who spends four hours reviewing the records and reporting his opinions at a cost of $500 per hour, or $2000 in total.[234] For now, suppose that it costs an additional $500 per case to pay the blinding intermediary to select an expert, develop the dossier of predicate facts, and transmit the necessary information between the party and the expert while maintaining the integrity of the blind.[235]

If the blind expert is retained but renders an unfavorable opinion, the entire expense ($2500) is wasted, and the litigant must either try the blind procedure again or find and retain an unblind expert if he chooses to proceed with the case.[236] On the other hand, if the opinion is favorable, the blind procedure costs only the intermediary's $500 fee, assuming that a favorable blind expert will displace a litigant's need for an unblind expert and that the costs of subsequent work (i.e., deposition and trial testimony) are the same for blind and unblind experts. If a litigant wants to use both a blind and an unblind expert, the marginal cost would be higher.

2. *The Benefits of Added Credibility*

Against these costs, the litigant weighs the projected benefits of the procedure. The benefits depend on the amount at stake in the litigation.[237] Suppose that, in a given case, there are one million dollars in damages, which is slightly below the mean final judgment of med-mal cases (after imposition of damages caps) according to one survey of medical malpractice cases in California.[238] For simplicity,

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[234] *See, e.g.*, Simon v. Sec'y of Health & Human Servs., No. 05-941V, 2008 WL 623833, at *6–8 (Fed. Cl. Feb. 21, 2008) (approving $500 hourly rate for medical expert and describing testimony indicating that it takes four hours to review medical records).

[235] Notably, some of the blind intermediary's costs of identifying and prescreening experts will displace those that the litigant would otherwise have to perform himself, since experts must be searched for, identified, and contacted, regardless of whether they are blind.

[236] Nonetheless, this is the only disadvantage for the litigant, since the unfavorable blind opinion or even the existence of the unfavorable blind expert need not be disclosed to the adversary or the factfinder. *See supra* Part II.B.2.

[237] For simplicity, I exclude changes in litigation costs and expenses from this analysis. In reality, a technology that increases the odds of prevailing at trial will be even more attractive, given that certain litigation costs will be shifted to the losing side and expenses may be avoided by settlement. *See infra* Part IV.C.

[238] *See* Nicholas M. Pace et al., RAND, Capping Non-economic Awards in Medical Malpractice Trials 20–23 (2004), *available at* http://www.rand.org/pubs/

conservatively assume that the amount at stake is the same, regardless of the presence of a blind expert.

If only one side succeeds in retaining a favorable blind opinion, then that side presumably will be more likely to win at trial, because that side has an unbiased, objective scientist in opposition to the other side's hired gun. The value of this marginal added credibility to jurors is an empirical question, one that is answered by a large body of data showing that when juries are flummoxed by the substance of highly technical testimony they instead evaluate the credibility—and especially the impartiality—of the experts delivering testimony.[239] Indeed, under the status quo, litigants are advised that in order to prevail with a jury, "[i]t is imperative that the [expert] testimony not look bought."[240] Furthermore, "[a]t all costs the expert must be viewed as a professional interested in a factual presentation and not an advocate for one side."[241] According to scholars reviewing the small number of cases tried with court-appointed experts, "[t]he conclusion is inescapable: A [c]ourt's expert will be a persuasive witness and will

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monographs/2004/RAND_MG234.pdf (showing mean/median final judgments of $1,150,000/$293,000 after imposition of statutory cap on damages, and mean/median verdict of $1,637,000/$382,000 before application of cap, in sample of California medical malpractice cases from 1995 to 1999). *But see* David A. Hyman et al., *Do Defendants Pay What Juries Award? Post-verdict Haircuts in Texas Medical Malpractice Cases, 1988–2003*, 4 J. EMPIRICAL LEGAL STUD. 3, 3–4 (2007) (showing that most plaintiffs received significantly less than amount jury awarded, due to insurance policy limits and other factors).

[239] *See* Joel Cooper & Isaac M. Neuhaus, *The "Hired Gun" Effect: Assessing the Effect of Pay, Frequency of Testifying, and Credentials on the Perception of Expert Testimony*, 24 LAW & HUM. BEHAV. 149, 165, 166 fig.3 (2000) (describing experimental results showing that in highly complex cases, mock jurors found for parties with highly paid experts in only nineteen percent of cases and for parties with low paid experts in fifty-seven percent of cases); Sanja Kutnjak Ivkovic & Valerie P. Hans, *Jurors' Evaluations of Expert Testimony: Judging the Messenger and the Message*, 28 LAW & SOC. INQUIRY 441, 478–79 (2003) (reviewing studies documenting juries' tendencies to discount hired-gun experts); Joseph Sanders, *Jury Deliberation in a Complex Case:* Havner v. Merrell Dow Pharmaceuticals, 16 JUST. SYS. J. 45, 61 (1993) (explaining study showing that jurors tended to "discount[ ] all expert opinions as testimony of hired guns," but noting that jurors still had views about "relative effectiveness of witnesses"); *see also* Hand, *supra* note 1, at 57 (hypothesizing that impartial scientists would have "great . . . effect upon the jury").

[240] Gross, *supra* note 4, at 1164 (first alteration in original) (quoting Neil Miller, *Selecting Expert Witnesses with Litigation Savvy*, NAT'L L.J., Oct. 24, 1988, at 44).

[241] *Id.* at 1165 (quoting Harold A. Feder, *The Care and Feeding of Experts*, TRIAL, June 1985, at 49, 52); *see also* Ivkovic & Hans, *supra* note 241, at 480 (describing survey of lawyers and scientists showing that they prioritized ability of experts to "maintain integrity and neutrality, and to avoid being adversarial"); Jasanoff, *supra* note 112, at 127–28 (explaining that appearance of objectivity is one of two primary criteria of credibility that litigants attempt to maximize, along with experience); Eric A. Vos, *Experts: How To Identify Them, Confront Them, and Keep Them Off the Stand*, CHAMPION, June 2007, at 10, ("Ultimately, the expert should sound like an unbiased witness and less like an advocate.").

have a significant effect upon a jury."[242] A blind expert should have a similar—though perhaps a smaller—effect.

The magnitude of the added credibility also will depend on the attorney's skill at cross-examining the unblind expert offered by the adversary—revealing her selection bias, affiliation bias, and compensation bias—so as to create a disparity in credibility. On the other hand, it will also be a function of the blind expert's personal persuasiveness and ability to teach complex concepts to the jury. A blind expert may actually diminish the value of a case if she is a poor witness, but this is unlikely if the court allows the litigant to bring a hired-gun expert too.[243] The benefits of scientific objectivity and adversarial vigor should be cumulative.

Altogether, suppose that the odds of winning—and thus the value of the case—will shift in favor of the side with a sole blind expert by a modest 10%. If the plaintiff had previously assumed that she had a 50% chance of winning, then she would have valued the case as a $500,000 asset (putting litigation expenses aside for now). For the plaintiff that secures the sole blind expert, the blind procedure provides $100,000 in value ($1,000,000 × 0.1), and the case is now worth $600,000. Referring back to Table 1, we can see that, assuming both parties try the procedure, the one with truth on her side receives that marginal $100,000 in 90.25% of the cases, for an expected value of $90,250. At least for that litigant, this is a very attractive bet at a cost of only $2500.

3. *The Value of the Truth-Revealing Function*

We have so far assumed that each case has a true value, such that there are underlying scientific or technical facts that are favorable to the plaintiff or the defendant, and we have assumed that blind experts will tend to reveal that truth at a particular rate (equal to $1 - e$, where e is the base error rate). Thus, for a litigant who is considering whether to purchase a blind opinion, a primary consideration will be

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[242] Carl B. Rubin & Laura Ringenbach, *The Use of Court Experts in Asbestos Litigation*, 137 F.R.D. 35, 41 (1991). *But see* Nancy J. Brekke et al., *Of Juries and Court-Appointed Experts: The Impact of Nonadversarial Versus Adversarial Expert Testimony*, 15 Law & Hum. Behav. 451, 470 (1991) (reporting that in mock jury trials of criminal rape case, "[c]ourt-appointed status did not augment the perceived credibility of the expert witness and non-adversarial expert testimony was not given uniformly more weight than adversarial expert testimony").

[243] Of course, the litigant would then have to pay the additional cost of retaining a traditional hired-gun expert. To prevent this, a litigant would likely assess the blind expert as a potential witness before choosing to bring him to trial, and in constructing the expert pool ex ante the intermediary would also be sensitive to the need for the experts to be effective witnesses.

his own relationship to the truth, which can be conceived as degrees of confidence (r) from zero to one.[244] If a litigant is one hundred percent confident that the truth is favorable, then he will expect that he is quite likely to benefit from the truth-revealing function of the blind expert, constrained only by its error rate (e). A litigant who knew her case was frivolous would have the opposite prediction. Presumably, litigants do not actually know whether they have the scientific truth on their side—at least not at such extreme levels of confidence. So let us conservatively assume for an initial illustration that each party believes that there is a 50% chance that the truth is favorable; in this case, each requesting litigant has a 50% likelihood of getting a favorable blind opinion.[245] Thus, the $90,250 benefit for the party with truth on her side becomes a $45,125 expected value for a litigant assessing the tactic ex ante.

This still looks like quite a good bet for a litigant considering whether to pay $2500 to buy the initial opinion. Nonetheless, a complete analysis will require consideration of all four potential outcomes shown on Table 1, along with predictions about the adversary's behavior and more nuance about the perceived likelihood that the truth is favorable. The next Section undertakes this complex task; it will, however, remain true that the rationality of the blind procedure largely depends on whether the transaction costs are in proper proportion to the potential benefits.

B.   *Game Theoretic Analysis*

Game theory is simply a tool for deciding what to do in situations where another player is also deciding what to do.[246] A game theoretic analysis of the blind procedure demonstrates that it is a rational strategy for a litigant regardless of whether the adversary also utilizes the procedure. If the adversary does not try the procedure, it is valuable as an offensive play to redistribute value away from the adversary. If the adversary does try the procedure, it is valuable either as an offensive play (if the adversary fails to secure a favorable blind

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[244] Note that r is subjective, as it is each litigant's perception of the likelihood that the truth is favorable. Thus, there are actually two separate r values, one for each litigant ($r_{Plaintiff}$ and $r_{Defendant}$). Although $r_{Plaintiff} + r_{Defendant}$ would always equal 1 if parties had perfect knowledge, this need not be the case in actual litigation. For a further discussion of the issue of differing litigant perceptions, see *infra* note 255 and accompanying text.

[245] The party seeking to use the blind has two ways to get a favorable opinion: If truth is favorable (determined by variable r) and the expert is correct ($1 - e$), or if truth is unfavorable ($1 - r$) but the expert errs (e). When $r = 0.5$, the e terms cancel out, and the odds of getting a favorable opinion equal r, or 0.5. *See* equation (3) in Appendix *infra*.

[246] For a review of more comprehensive and formal game theoretic accounts of the production of evidence in litigation, see generally Yee, *supra* note 46.

expert) or as a defensive play (to try to neutralize any blind expert that the adversary secures).

1.   *The Blind Procedure as a Prisoner's Dilemma*

Although generalized equations are in the Appendix, the rationality of the procedure can be illustrated using the stipulated values from Section A. With these values, we can calculate outcomes in four possible worlds: where both parties try the procedure, where neither tries, where only the defendant tries, and where only the plaintiff tries. The marginal payoffs—the expected values of using the procedure—are shown in Table 4.

TABLE 4
EXPECTED VALUES OF USING BLIND PROCEDURE

		Defendant	
		Don't Try Blind Procedure	Try Blind Procedure
Plaintiff	Don't Try Blind Procedure	P: $0 D: $0	P: −$50,000 D: +$48,500
	Try Blind Procedure	P: +$48,500 D: −$50,000	P: −$1500 D: −$1500

The top-left box is the scenario where neither party attempts the blind. This is the status quo, so the marginal change is $0.

The bottom-right box represents the situation where both parties attempt the blind procedure.[247] As neither side knows which party is likely to secure a favorable blind expert (the postulate that $r = 0.5$), all potential gains of the procedure are offset. Thus, all that remains in this strategy profile is an expected transaction cost of $1500.[248]

For the remaining two boxes (top-right and bottom-left), consider the two symmetrical situations where one party chooses to use the blind procedure (the "trying party") and the other does not. The trying party pays the transaction costs and has a 50% chance of transferring $100,000 from the other party, giving this outcome a marginal expected value of $48,500. The party that does not try sees an

[247] These values are actually composites of all four possibilities shown in Table 1 for which blind experts appear at trial (zero, one for the plaintiffs, one for the defendants, or two), with the respective payoffs added according to their probabilities. The equation for calculating these composites is found at equation (6) in the Appendix, *infra*.

[248] The blind procedure will cost $2000 for the expert's fee, plus $500 for the intermediary's costs. The latter cost is sunk, but when favorable (fifty percent of the time), the former offsets the costs of procuring an unblind opinion. Thus, the expected transaction costs are −$500 + 0.5 × (−$2000) = −$1500.

expected loss of $50,000 because she loses $100,000 in the 50% of cases in which the trying party gains it.

Assuming that the litigants are unable to coordinate their strategies, Table 4 shows that the game is a classic prisoner's dilemma, where "trying" is the defection strategy.[249] Trying the blind procedure is a strictly dominant strategy and a Nash equilibrium.[250] If the adversary is abstaining from the blind procedure, it is best to try it, since the strategy yields an expected value of $48,500. On the other hand, if the adversary is trying, it is *still* best to try, since losing $1500 is much better than losing $50,000. No matter what the adversary does, each party will prefer to try the blind procedure.

2. Collusion and Optimism

Table 4 also shows that the blind procedure is *not* pareto-optimal for the plaintiff and defendant collectively.[251] In the (try, try) strategy profile, $3000 is transferred from the litigants to the experts and the intermediary.[252] In the (try, don't try) profile, the two parties still have a net loss of $1500. This presents a collective action problem for the litigants, as they would prefer to coordinate on the top-left strategy profile, where neither party tries the procedure. The potential for such coordination is a problem for the blind procedure and a problem for the legal system more generally.

This problem, however, may be little more than theoretical, since litigation is rife with costly and suboptimal strategies that litigants use to redistribute value from their adversaries. For example, in large cases, both parties hire experienced trial attorneys, jury consultants, trial presentation consultants, and highly credentialed expert witnesses, all at great expense. We could imagine litigants instead cooper-

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[249] In a prisoner's dilemma, two prisoners can implicate each other, and each knows the following rules, set by the prosecutor. If one confesses to the joint crime (the "defection" strategy) and the other denies it (the "cooperation" strategy), then the confessor will be set free and the denier will suffer a long sentence (e.g., ten years). If both confess, they will both get a shorter sentence (e.g., eight years). If both deny, they will get the shortest sentence (e.g., one year). The pareto-optimal strategy is for both players to deny, but the dominant strategy is to confess, because it has a better outcome for each player individually regardless of what the other player does. "The Prisoner's Dilemma crops up in many different situations, including oligopoly pricing, auction bidding, salesman effort, political bargaining, and arms races." ERIC RASMUSEN, GAMES AND INFORMATION 20 (3d ed. 2001).

[250] *See id.* at 26 ("[A] Nash equilibrium [exists] if no player has [an] incentive to deviate from his strategy given that the other players do not deviate.").

[251] *See id.* at 20, 82 (discussing pareto-optimality and noting that mutual defection in hypothetical prisoner's dilemma actually leads to *worst* possible combined outcome, despite being dominant strategy).

[252] This externality should provide some incentive for the population of expert witnesses to support this intervention, likely through their professional membership organizations. It also provides an incentive for the intermediary to create the blinding service.

atively agreeing to use only green attorneys straight out of law school, forgoing jury consultants in favor of hunches, skipping trial presentation consultants in favor of chalkboard sketches, and stipulating to the use of depositions (or even reports) rather than live expert testimony, all in order to save money. Yet these sorts of deals do not seem to occur with regularity, and thus we likewise should not expect litigants to conspire to avoid the blind procedure.

There are various reasons why litigants do not cooperate in these ways. For instance, litigants often have strong personal enmity toward each other (indeed, they already have one huge grievance at issue), their lawyers work under strong adversarial norms, and both sides practice strategic posturing. There are also problems with monitoring and enforcing any such deal. Given the positive externalities of the blind procedure for the litigation system, courts should decline to assist parties by enforcing deals that would avoid the use of blind experts.

More importantly, these cooperative deals do not happen frequently because litigants tend to believe that they will get more benefit from these interventions than their adversaries will. Although a rare few litigants may be ruthlessly rational and pursue cases as if they were mere lottery tickets found on the street, most litigants see litigation as an attempt to vindicate preexisting beliefs. Simply put, litigants believe that they are right, and that investing in these strategies will enhance their ability to prove that fact. In the med-mal context, for example, doctor-defendants often believe that they did nothing wrong, and patient-plaintiffs believe that they were wrongfully injured.[253] Both parties expect that a blinded expert will vindicate their priors.

Similarly, empirical research has shown that merely assigning persons to one side or the other of a case tends to bias their assessments of fairness, and such counterpoised biases tend to prevent litigants from reaching settlements, even when they have the same information about the case.[254] Presumably litigants would also be biased in their assessments of the true values of their cases, or at least optimistic about blind experts being favorable. Thus, as long as at least one party

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[253] This demand for vindication is one reason why both plaintiffs and defendants will leave money on the negotiation table in order to secure or avoid an admission or apology. *See* Daniel W. Shuman, *The Psychology of Compensation in Tort Law*, 43 U. Kan. L. Rev. 39, 68 (1994) (examining apologies in context of tort law compensation).

[254] *See* Babcock et al., *supra* note 47, at 1338 (reporting study where affiliation with one side of case affected assessments of fairness); *cf.* Christine Jolls, *Behavioral Economics Analysis of Redistributive Legal Rules*, 51 Vand. L. Rev. 1653, 1659–63 & n.23 (1998) (reviewing literature on "optimism bias").

is confident in the truth of his position, the litigants are unlikely to conspire to avoid the procedure.

3. Robustness

Now that the basics of the game theoretic analysis have been laid out, consider how the rationality of the blind procedure will change when the values of the variables are different. Obviously, the procedure will be most attractive where the costs of retaining a blind expert are small compared to the amount at stake in the lawsuit.

Still, the basic prisoner's dilemma structure of the game is preserved over a wide range of assumptions. For example, cut the stakes to one-tenth of the previous assumptions and more than triple the costs: In a case with only $100,000 at stake and for which a blind expert opinion costs $8500, it is still rational to try the blind procedure.[255] Even in cases where initial expert opinions are very expensive—such as a class action case requiring extensive data analysis—the blind procedure would likely still be attractive to litigants.[256] Generally, litigants are unlikely to make these sorts of fine-grained calculations, in part because they do not have accurate data to specify some of the variables. However, they can be confident that within a very wide range of possible values the strategy of enlisting a blind expert remains dominant.

C. Settlements and Screening

The previous Section showed that the blind procedure could help litigants by increasing the likelihood of prevailing at trial. Yet, the vast majority of cases are never tried, and indeed the presence of a blind expert may affect the parties' decisions as to whether to settle or even whether to file a case in the first place. This Section shows how the blind procedure promises a benefit to the litigants and the legal system as a diagnostic device, even when cases do not go to trial.

Roughly speaking, when litigants are deciding whether to settle a case, they arrive at a settlement price by each considering the following: (1) the perceived likelihood of winning at trial; (2) the amount at stake (both monetary and otherwise); (3) the expected fees and expenses of proceeding through trial; and (4) the costs they will incur

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[255] This holds constant all the other assumptions in Table 4, including $r = 0.5$. In this scenario, the payoff in the (try, try) profile is (−$4500, −$4500) and the payoff in the (try, don't try) profile is ($500, −$5000). Regardless of what the other side does, it is better to try.

[256] If there are $3 million in damages at stake, and it costs $251,000 to get an initial expert opinion, then it is a rational strategy because the (try, try) profile pays (−$126,000, −$126,000) while (try, don't try) pays ($24,000, −$150,000).

if they lose.[257] Based on these estimates, the plaintiff can calculate the lowest possible settlement that would still be better than the expected value of a trial, and the defendant can calculate the highest possible settlement that would be better than the expected value of a trial. If the parties have a zone of possible agreement (ZOPA), a settlement will be rational, though strategic bargaining may nonetheless prevent such a settlement from being achieved.[258]

As we have seen, the blind procedure will affect the price of settlements by shifting expected value toward a party with an unrebutted blind expert. This is true as long as the parties can agree that blind experts have some credibility advantage with the factfinder over unblind experts.

In addition to this redistribution, the blind procedure may increase the rate of settlement. Under one economic theory, settlement fails and "a trial will occur when the parties make inconsistent and self-serving errors in their estimates of the likely judgment."[259] The blind expert may allow the parties to converge on the true value of a case. Court-appointed experts reportedly have a similar positive impact on settlement rates.[260]

On the other hand, if upon learning that one party has a favorable blind expert the parties both symmetrically adjust their perceived probabilities of prevailing, it will not create a ZOPA. Future empirical research should quantify jurors' responses to unrebutted blind experts, so that parties have a common basis of knowledge for determining the new value of cases when there is a blind expert.

Due to strategic bargaining and optimism bias, there are many cases where one litigant cannot or will not move her demands based on the new information. In those situations, a blind expert may create a ZOPA by causing the other party to move closer. For example, in a sample of sixty-three California medical malpractice cases that went to trial during one year in the 1980s, researchers found that defen-

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[257] *See* George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1, 4 (1984) (discussing settlement factors).

[258] *See, e.g.*, Robert H. Mnookin & Lewis Kornhauser, *Bargaining in the Shadow of the Law: The Case of Divorce*, 88 YALE L.J. 950, 974–77 (1979) (examining strategic behavior in divorce cases and noting that "[i]f the parties get heavily engaged in strategic behavior . . . a courtroom battle may result, despite both parties' preference for a settlement").

[259] Samuel R. Gross & Kent D. Syverud, *Getting to No: A Study of Settlement Negotiations and the Selection of Cases for Trial*, 90 MICH. L. REV. 319, 321 (1991). Gross and Syverud also discuss another theory of negotiation failure, which attributes failure to "strategic ploys that misfire" during bargaining. *Id.* at 321.

[260] *See, e.g.*, *Science on Trial* (XM Satellite Radio broadcast Apr. 29, 2006), *transcript available at* http://www.acfnewsource.org/science/science_on_trial.html (describing experiences of one U.S. district judge who said that court-appointed experts "made it easier for everyone to find a settlement they could live with").

dants refused to make any settlement offer at all approximately sixty percent of the time.[261] Nonetheless, in these zero-dollar–offer cases, the plaintiffs prevailed at trial about one-third of the time, with an average recovery of about $213,000.[262] If the plaintiff's attorney correctly thinks that the expected chances of winning in a zero-dollar–offer case are one in three, these cases are still a good bet for the attorney.[263] However, if the defendants were able to retain favorable blind experts in some of these cases—and thereby further reduce the plaintiff's perceived odds of prevailing—then it may no longer be rational for a plaintiff to proceed.[264] Since the defendant is already at zero, she cannot then update her demand, and the blind expert has made settlement more likely. On the other hand, in cases in which the plaintiff can secure a blind expert, the defendant will be more compelled to make a realistic settlement offer.

Furthermore, whichever side secures a favorable blind expert will likely disclose that fact very early to save itself—as well as the adversary and the legal system—the costs of litigating to the brink of trial. One recent study showed that to defend a malpractice case that results in a verdict for the plaintiff, it costs insurers an extra $70,000 in expenses alone.[265] If an investment of a few thousand dollars on a blind opinion shifts the odds toward settlement rather than trial, it would be a good investment for a litigant, even aside from the opinion's value in changing the outcome of a potential trial.

Even before litigation begins, the blind procedure can help attorneys make better decisions regarding which cases to take. For a few thousand dollars, an attorney can send a potential case to the interme-

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[261] Gross & Syverud, *supra* note 261, at 346 tbl.3, 360. Gross and Syverud suggest that insurers use this zero-dollar–offer tactic to deter future cases and because insurance contracts provide physician defendants with a veto over settlement, even though the insurers, not the defendants, bear the expenses of trial. *Id.* at 361.

[262] *Id.* at 346. The average recovery in these cases was $108,000 in 1986 dollars, which I have adjusted to $213,000 in 2009 dollars using the Bureau of Labor Statistics inflation calculator, available at http://data.bls.gov/cgi-bin/cpicalc.pl.

[263] If a plaintiff's attorney can prosecute one of these claims for, say, $25,000 in expenses on a 40% contingent fee, it is worthwhile to proceed to trial. The expected utility is $(0.33 \times \$213,000 \times 0.4) + (0.67 \times -\$25,000) = \$11,366$. In the win scenario, the attorney recovers the expenses from the judgment amount, so expenses are only considered in the loss scenario. *See* Gross & Syverud, *supra* note 261, at 349 n.71 (describing recovery of expenses in contingent fee cases).

[264] Suppose that if the defendant secures an unrebutted blind expert, the plaintiff's perceived odds of prevailing decrease from one in three to one in five. Now, given the other parameters in *supra* note 265, the net utility of going to trial is –$2960.

[265] David M. Studdert et al., *Claims, Errors, and Compensation Payments in Medical Malpractice Litigation*, 354 New Eng. J. Med. 2024, 2027 (2006) (showing that claims resolved in plaintiff's favor at trial cost insurer $112,968 in defense costs, while those claims resolved out of court cost only $42,015).

diary, and a few weeks later get back a well-qualified expert opinion, saving the attorney lots of work and uncertainty in deciding whether to take the case.[266] Some plaintiffs' attorneys, who have large inventories of cases to choose from, may use the blind procedure as the sine qua non for prosecuting a case, since those cases will lead to the largest and quickest settlements and will be the ones that are the least likely to face a blind expert on the other side.

In this sense, the blind procedure provides litigants with not only a big gun to use at trial, but it also provides an assessment device showing which battles are worth fighting in the first place. To the extent that the blind procedure channels bona fide cases into the legal system—and bad cases out of it—it is a salutary device for both justice and efficiency.

V

Comparisons, Logistics, Truth, and Progress

Now that the essential structure of the blind procedure has been laid out, this Part will address several remaining issues. Section A compares the blind procedure to *Daubert* and court-appointment, showing how the blind procedure can supplant many features of the current systems. Section B explores some questions about the role of expertise when the truth is indeterminate. Section C provides some thoughts about how the blind procedure could be implemented to ensure the robustness of the blinds while still adequately compensating the blind experts. Section D asks why litigants have not already employed such blinding methods, explores whether bounded rationality may prevent litigants from using the procedure, and reflects on directions for future study, especially the application of the procedure beyond medical malpractice litigation.

A.   *The Case for Reform over Court-Appointment and* Daubert

This Section explains why the legal system should encourage and facilitate the use of the blind procedure. I argue that the blind procedure is a sensible and efficient reform, superior to court-appointment and *Daubert* screening, and I show how the blind procedure could work in conjunction with those mechanisms.

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[266] Litigants already use consulting experts for this purpose, but it requires effort to find such experts, and it may be difficult to get an objective assessment from them since they know who is asking.

1. The Case for Reform

So far, this Article has shown that the blind procedure is rational for litigants, since it provides the potential to win more cases; and that the procedure is beneficial for the legal system's factfinders, since it provides them with reliable fact-signals. But are blind experts worthwhile for the legal system as a whole?

Admittedly, the blind procedure has costs. Given the illustrative assumptions above, the average case litigated with blind experts will cost the litigants a few thousand dollars more than litigation under the status quo, since the intermediary must be paid and since some blind opinions will be unfavorable and thus will go unused by the sponsoring litigants. It should be noted that these costs will not be borne by the courts; the costs will be borne by the litigants, and disproportionately by those who are fighting *against* the truth. As such, the procedure is like a voluntary excise tax on bad cases, where the revenues are used to improve the accuracy of the legal system.[267]

Furthermore, the costs must be weighed against the likely benefits. With fact-signals from blind experts, factfinders can more accurately impose liability, compensating worthy plaintiffs and deterring potential future defendants. In addition, it is likely that this innovation will reduce insurance costs by reducing litigation uncertainty. We can also expect more cases to be settled and fewer frivolous claims and defenses to be litigated in the first place. Thus, the procedure will likely reduce litigation costs on net.

The case for reform is thus clear. It would be a worthwhile investment of a few million dollars to create the blinding intermediary as a self-financing public good for litigants to use in serving their private and the public interests.

2. Comparison with Court-Appointment

Of course, to the extent that courts want to solve the problem of expert bias, judges can simply hire their own neutral experts, which may seem more direct and efficient than the complicated blind procedure. However, there are two problems with court-appointment that the blind procedure solves.

First, as explained in Part I.C, there are substantive concerns about the accuracy and fairness of court-appointed experts because, while they enjoy strong deference from factfinders, their errors cannot

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[267] *Cf.* Richard A. Posner, Economic Analysis of Law 611 (7th ed. 2007) ("[O]ffsetting expenditures on litigation are not necessarily wasteful from a social as distinct from a private standpoint, since . . . they increase the probability of a correct decision by giving the tribunal more information.").

be effectively rebutted by litigants. As shown in Table 1, the adversarial blind procedure improves on court-appointment because it relies upon *two* independent expert assessments of the truth, so that whenever one errs, the other is ready to rebut her with equal credibility. The signals sent by blind experts to factfinders are thus more reliable than the signals sent by court-appointed experts. Although it is still possible that a blind expert will hijack the case with an erroneous but unassailable opinion, this scenario is much more likely to occur with court-appointed experts.[268]

On the other hand, it may *seem* advantageous that court-appointment sends *some* signal in every case where the procedure is used, while the blind procedure fails to send a signal in the cases where the two blind experts disagree. But more signals are not necessarily better; the reliability of the signals matters too. In the 400 hypothetical cases discussed above, the blind procedure sends true signals in 361, a false signal in 1 case, and no signal in 38 cases. If court-appointed experts enjoyed the same 5% error rate, then they would send 380 true signals and 20 false signals. So, although a court-appointed expert procedure would send 19 extra true signals, it would also send 19 extra false signals. As such, the accuracy of those extra signals is only 50%, and thus, would likely harm the accuracy of any factfinder who could otherwise do better hearing from two hired guns and making their own decision.[269] Thus, the blind procedure is more salubrious for the accuracy of litigation outcomes—sending a signal where it can help and wisely refraining where it cannot—and is more respectful of the jury's role and competence.

One might argue that the extra accuracy purchased by the blind procedure is unnecessary, and that one court-appointed expert would suffice. This of course depends on the accuracy of independent experts in a given field, and our tolerance for erroneous litigation outcomes. But in reality, the question is whether *zero* unbiased experts under the status quo is better than *two* under the blind procedure. While courts have for decades enjoyed the explicit authority to use court-appointed experts, they have generally declined to do so. The blind procedure instead gives the power to the litigants, who have the proper incentives and roles to use it. Even if the blind procedure were no more accurate or efficient than court-appointment, it would be a better policy because it actually holds the promise of being used.

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[268] Moreover, it seems likely that a blind expert that errs will be more assailable by the adversary since the blind expert does not enjoy the imprimatur of the court.

[269] Recall that the juries in the Studdert and Mello study enjoyed 70% accuracy. *See supra* Table 2.

Thus, it may be time to turn the page on the noble idea of court-appointed experts and instead work toward a reality of adversarial blind experts. Still, the two procedures can be complementary. Judges can use their current power to appoint experts under Rule of Evidence 706 as a means of encouraging litigants to use the blind procedure. The Rule contemplates that courts "may request the parties to submit nominations" of experts for appointment.[270] In doing so, courts could presumably add a strong preference that nominees be selected through the blind procedure. Such a proviso would expedite the process of getting a neutral expert opinion into court, without burdening the judge with the details and without requiring her to go beyond her traditional role as a passive arbiter of the law. With such a method, the judge need not get into the evidence-producing or fact-finding functions herself.

If after receiving such nominations the judge *did* appoint a blind expert as its own, the court could then shift the expenses of paying that expert to the losing party as a taxable cost.[271] Such a policy would help reassure litigants with modest means that if they have the truth on their side, the blind procedure will be costless.[272] Even if the court declines to appoint a nominated blind expert, the parties may still use favorable opinions on their own, and they are likely to do so, since the cost of securing the opinion is already sunk. In this way, the judge's request for nominations may suffice to motivate litigants to use the blind procedure, if its rationality is not already sufficiently clear to them.

3.   *Comparison with* Daubert

The blind procedure could also have a mutually reinforcing relationship with the judge's gatekeeping function of *Daubert* and its progeny; the procedure may even make these gatekeeping functions nearly obsolete. Arguably, the litigant-induced biases discussed in Part I.B—selection, affiliation, and compensation—are the root causes of the problem of unreliable expert testimony and junk science in court. Indeed, the Supreme Court has held that the purpose of the

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[270] Fed. R. Evid. 706(a).

[271] *See* Fed. R. Evid. 706(b) ("[T]he compensation shall be paid by the parties in such proportion and at such time as the court directs, and thereafter charged in like manner as other costs.").

[272] As another solution to this problem, courts could increase the case filing fee for litigants without blind experts (in cases that require an expert) and use the additional funds to subsidize the costs of blind experts for indigent litigants. Some states already require that plaintiffs' attorneys file "certificates of merit" indicating that they have a favorable opinion from a qualified expert. Struve, *supra* note 88, at 174. This proposal would simply add the incentive to make that opinion blinded.

gatekeeping function is to "make certain that an expert . . . employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field."[273] By randomly selecting an expert from the practicing field, and by asking her to render an opinion from behind a blind, the procedure serves that desideratum much more directly than *Daubert* itself does. Thus, when faced with a blind expert, the judge need not second-guess the testimony. If the courts do defer to blind experts in this way, making them nearly immune to *Daubert* challenges, this will provide yet another reason for litigants to invest in blind opinions.

The presence of a blind expert may also make it untenable for an adversary to survive *Daubert* screening or summary judgment with only a hired gun. Currently, judges may feel reluctant to exclude experts where there appears to be a genuine disagreement and the judge is left near equipoise. But the blind procedure creates a disparity and raises questions about the scientific integrity of the expert that is willing to testify without the protection of a blind. How much probative value does a hired gun have, if Judge Weinstein is correct that an unblind "expert can be found to testify to the truth of almost any factual theory, no matter how frivolous . . . ?"[274] Indeed, the Supreme Court recently altogether refused to consider certain social science evidence because it seemed tainted by litigant-induced biases.[275] If courts do tend to exclude unblind experts for this reason, it will only further increase the value of the blind procedure to litigants and increase the rate of settlements.

These insights may even lead courts or legislatures to revise the doctrine of summary judgment to hold that a party does not create a "genuine issue as to any material fact" by merely introducing the testimony of an unblind expert.[276] Extending this line of thought further,

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[273] Kumho Tire Co. v. Carmichael, 526 U.S. 137, 152 (1999).

[274] Weinstein, *supra* note 31, at 482.

[275] Exxon Shipping Co. v. Baker, 128 S. Ct. 2605, 2626 n.17 (2008) ("The Court is aware of a body of literature running parallel to anecdotal reports, examining the predictability of punitive awards by conducting numerous 'mock juries,' where different 'jurors' are confronted with the same hypothetical case. . . . Because this research was funded in part by Exxon, we decline to rely on it." (citation omitted)); *see also In re* Silica Prods. Liab. Litig., 398 F. Supp. 2d 563, 627–28, 640 (S.D. Tex. 2005) (excluding expert testimony in part because compensation bias was prominent).

[276] *See* FED. R. CIV. P. 56(c) (stating standard for summary judgment). Indeed, some courts have held that conclusory expert opinions are insufficient to create a genuine dispute of material fact. *See, e.g.*, Mid-State Fertilizer Co. v. Exch. Nat'l Bank of Chi., 877 F.2d 1333, 1339 (7th Cir. 1989) ("[A]n expert's declaration, full of assertion but empty of facts and reasons, won't get a case past a motion for summary judgment . . . ." (citing Richardson v. Richardson-Merrell, Inc., 857 F.2d 823, 829–32 (D.C. Cir. 1988))); *cf.* Jimenez v. GNOC, Corp., 670 A.2d 24, 27 (N.J. Super. Ct. App. Div. 1996) ("When an

the blind procedure may tip the scales in cases where a judge may order a new trial.[277]

Still, this Article does not suggest that courts should effectively ban unblind experts from the courtroom. Instead, this Article suggests a hybrid approach to factfinding, allowing litigants to use the blind procedure to eliminate certain biases, but also allowing litigants to use traditional means of presenting their most powerful cases to the factfinders. The elimination of litigant-induced biases is only a signal of the truth—an epistemic device, not a guarantee.

In any given case, a blind expert may be wrong, while an unblind expert may be right, and there is an element of luck involved in securing a favorable blind opinion. Indeed, Table 1 showed that in a small but significant number of cases, *neither side* will be able to secure a blind expert. A ban on unblind experts would effectively dismiss such cases, leading to systematic underdeterrence and undercompensation. As a result, the system still needs unblind experts and traditional *Daubert* gatekeeping.

Further, there will be a rare subset of cases where the relevant scientific consensus doctrine is wrong, but there is at least one or more dissenting "minority experts" who have discovered the truth but have not persuaded their colleagues to revise the consensus view.[278] In this very small subset of cases, the blind procedure will tend to send false signals to the factfinders, while a handpicked, unblind expert may instead be correct.[279]

A hybrid approach of both blind and unblind experts is most consistent with contemporary legal doctrine. The modern, post-*Daubert* standards for admissibility of expert testimony do not require *Frye*'s

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expert's opinion is merely a bare conclusion unsupported by factual evidence, . . . it is inadmissible.").

[277] If a jury's verdict follows an unblind expert rather than a blind expert, a judge may determine that the verdict is against the "great weight of the evidence" and amounts to a "miscarriage of justice," and therefore order a new trial. *See* Sheridan v. E.I. DuPont de Nemours & Co., 100 F.3d 1061, 1076 (3d Cir. 1996) (en banc) (stating legal standard for new trial); *see also* Hand, *supra* note 1, at 57 (suggesting that courts could grant new trials if juries rule contrary to neutral expert panels). *See generally* FED. R. CIV. P. 59(a)(1)(A) (outlining grounds for granting new trial following jury verdict).

[278] *See generally* THOMAS S. KUHN, THE STRUCTURE OF SCIENTIFIC REVOLUTIONS (3d ed. 1996) (describing process whereby "normal science" encounters "anomalies" and enters into crisis which then may lead to "scientific revolution").

[279] Of course, in many areas of the substantive law, these sorts of scientific errors are irrelevant because the law instead depends on the state of the art or customary practice at the relevant period of time. *See supra* text accompanying notes 208–12 (defining and discussing doctrinal error).

"general acceptance" in the scientific community,[280] but instead only demand indicia of reliability and the use of the scientific method.[281] A ban on unblind experts would effectively resurrect the *Frye* standard, since it is unlikely that experts in the minority will be randomly selected through the blind procedure. Thus, a party that is unable to secure a blind expert should be allowed to use the traditional methods and the factfinder should be allowed to give that testimony as much or as little weight as she thinks it deserves. For a *Daubert* judge (and a factfinder), an expert's lack of a blind should be just one of many indicia of (un)reliability.

B.   *The Indeterminacy of Truth*

This Section addresses a potential philosophical concern about this Article's simplified conceptualization of blind experts as capable of revealing "scientific truth." In repeatedly referring to the "accuracy" of experts and trial outcomes, this Article has explicitly assumed that there is a right or wrong answer in the cases litigated.[282] In short, I have assumed that in any case there is a scientific question that truly cuts in favor of the plaintiff or the defendant.

Yet suppose that there are cases where there is no right or wrong answer given by a preexisting and independent scientific reality. This may be especially true in the subset of cases that are tried rather than settled.[283] For example, there may be some med-mal cases on the cutting edge of medical practice, where there is no specifiable "correct" standard of care—only differences of opinion and value judgments. In patent law, there may be no "fact of the matter" as to the novelty of a particular patent claim. In certain types of litigation, law professors

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[280] *See* Frye v. United States, 293 F. 1013, 1014 (D.C. Cir. 1923) (holding that grounds for scientific testimony "must be sufficiently established to have gained general acceptance in the particular field in which it belongs").

[281] Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 590, 597 (1993); *see also id.* at 589 (holding that *Frye* "should not be applied in federal trials"); Michael S. Jacobs, *Testing the Assumptions Underlying the Debate About Scientific Evidence: A Closer Look at Juror "Incompetence" and Scientific "Objectivity,"* 25 CONN. L. REV. 1083, 1086 (1993) (criticizing "the notion that majoritarian science should serve as the gold standard for legal inquiries into complicated matters of scientific fact").

[282] *See supra* text accompanying note 17.

[283] *See* GEOFFREY C. HAZARD, JR., ETHICS IN THE PRACTICE OF THE LAW 122 (1978) (discussing "radical theory" that prior to trial parties have conceded all that can be proven objectively, such that only ambiguity remains); VIDMAR, *supra* note 9, at 175 ("[T]he cases that juries decide contain a high proportion of disputes where the evidence is most ambiguous."); Liang, *supra* note 220, at 140 (finding significant divergence of opinion among academically practicing anesthesiologists reviewing summaries of tried cases). *But see* Studdert & Mello, *supra* note 191, at S69 (noting that independent physicians rated only twenty-seven percent of tried cases in study sample as "close calls," essentially same proportion as those settled).

are called to testify about issues that appear to be value-based as opposed to fact-based, such as whether some contract is "unconscionable." How does the blind procedure work in these contexts?

First, it is important to note the incongruity between the task given to factfinders (to find the facts) and the substance of this concern (there are no facts).[284] The facts may be messy, complex, and contested, but if we could actually identify areas where there are no right or wrong answers at even the more-likely-than-not standard, then we should probably exclude the experts, dismiss those cases, or abolish those causes of action.[285] In the med-mal context, many states already recognize the "two schools of thought" doctrine, which provides a defense when the defendant applied one of two competing standards of care.[286] Blind experts would tend to reveal such splits, which is itself a more fundamental truth relevant to the determination of the proper legal outcome.

Second, if there is actually no truth for experts to converge upon in a given field, then there will likely be deep disagreement amongst the "experts." If *litigants* perceive that dispersion of opinion, then they will be less likely to pay the costs of the blind procedure, which only sends a signal if both experts agree.[287] Moreover, if *juries* perceive that there is no fact of the matter, they may be less inclined to care whether an expert is blind, thereby reducing the marginal value of the blind procedure, which further decreases the likelihood that the litigants will use it. Thus, in these contexts of great indeterminacy, the blind procedure may not be used.

Third, there are undoubtedly some cases where the factfinder's job is as much about choosing values as it is about determining exogenous facts. For example, some states have decided that med-mal claims will not be resolved conclusively by reference to the customary

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[284] Indeed, the whole point of bringing expert witnesses is to "assist the trier of fact to understand the evidence or to determine a fact in issue." FED. R. EVID. 702; *accord* Tockstein v. Spoeneman, No. 4:07CV00020 ERW, 2009 WL 2143762, at *2 (E.D. Mo. July 14, 2009) (excluding expert testimony on whether contract is unconscionable as matter of law because testimony would not assist in resolving question of fact).

[285] For example, if there simply is no right or wrong way to practice astrology, then we should not have malpractice liability for professional astrologers. Indeed, a search of ALLCASES in Westlaw for "astrology /s malpractice" reveals no such cases (last performed Feb. 24, 2010).

[286] *See* Cramm et al., *supra* note 194, at 704–05 (describing "two schools of thought" doctrine in medical malpractice); *see also* Shectman v. Bransfield, 959 A.2d 278, 284–86 (N.J. Super. Ct. App. Div. 2008) (applying two schools of thought doctrine when "there is no standard of care" but only "a matter of medical judgment").

[287] *See supra* text accompanying notes 191–92 (discussing strategic use of blind experts by litigants); *see also infra* Appendix tbl.5 (showing that as error rate (*e*) increases, frequency of truth signal (*f*) decreases).

practice of doctors; these states instead empower the jury to conduct an independent assessment of the reasonableness of defendants' actions.[288] This may reflect a policy recognition that the practice of medicine is infused with not just facts but also values, and that the jury has a role in deciding what risks are reasonable.[289]

Yet even in situations where the judge's or jury's determinations are based on facts *and* values, expert testimony will be revealing as to the former and may be educative as to the latter.[290] Similarly, outside the courtroom, laypersons must make value-laden decisions, such as choosing between two different cancer treatments that each have a different matrix of costs, likelihood of extending life, and side effects for the quality of those remaining months. Even if there is no objectively right or wrong answer, if informed choices are better than uninformed choices then unbiased information will be more useful than biased information. Indeed, the more complex, value-laden, and contested the questions get, the more we cling to those advisers who we can trust.

So, even when this Article's simplifying assumptions are loosened and a more nuanced account of facts and values is introduced, the utility of blind expertise remains strong. To the extent that the factfinders have a meaningful decision to make, blind experts are sure to be just as helpful, and likely more helpful, than unblind experts.

C.   Logistics of Blinds and Fees

Part II.B specified some of the basic mechanisms for operationalizing the blind procedure. This Section addresses a few additional logistical questions.

1.   The Robustness of the Blinds

First, one might worry that the first blind—the random selection of experts—might be compromised. For example, multiple intermediaries may arise, each developing a skewed roster of experts,

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[288] Peters, *supra* note 211, at 172–87; *see also* Philip G. Peters, Jr., *The Role of the Jury in Modern Malpractice Law*, 87 Iowa L. Rev. 909, 911–12 (2002) (assessing whether juries are capable of making informed decisions under reasonableness standard and whether this standard is superior to customary practice standard).

[289] This sort of policy is problemmatic, if jurors suffer from hindsight bias. *See* Jeffrey J. Rachlinski, *A Positive Psychological Theory of Judging in Hindsight*, 65 U. Chi. L. Rev. 571, 574, 612 (1998) (arguing that there is likely bias in ex post assessments of reasonable care but that reliance by courts on custom in medical malpractice serves to reduce bias).

[290] *See* D. Michael Risinger, *A Functional Taxonomy of Expertise*, *in* 1 David L. Faigman et al., Modern Scientific Evidence: The Law and Science of Expert Testimony 121, 141 (2008 ed.) (describing various contexts where "normative expertise" may be permitted, including professional malpractice cases).

so that a litigant's choice of intermediary will itself create a selection bias. Of course, if the adversary could discover and reveal this fact of a skewed pool to the jury, then the value of the procedure to the sponsoring litigant would be reduced. Moreover, the use of ex ante accreditation by the courts, along with contemporaneous monitoring and ex post discovery into selection procedures, would help ensure neutrality. To avoid these problems more efficiently, however, there should be a single, credible intermediary (at least for each domain of inquiry), such as the American Association for the Advancement of Science.[291]

How can experts be effectively blind while still receiving enough information to render an opinion? This Article has alluded to cases in which anonymized medical records alone suffice to inform the expert's opinion. However, there will also be more complicated situations, where an expert will need to interact with the parties themselves. For example, in an employment discrimination case, a statistician may be hired to compile, code, and analyze a defendant's records, requiring the expert to visit the defendant's offices and even question managers about the completeness and meaning of the records. Similarly, a medical expert may need to actually examine the plaintiff.

These interactions raise three potential problems that can be solved by appropriate rules. First, these interactions would inform the adversary that a blind expert has been retained, which thus could create a risk of an adverse opinion being used against the sponsor. Since the sponsor will not use the adverse opinion in trial, there is no fairness concern that demands waiver of attorney work product protections, so courts should prohibit the adversary from informing the jury that the sponsor retained a blind opinion but chose not to use it.[292] Second, the intermediary and the courts should assist blind experts in learning any discoverable information that they need to inform their opinions, to the same extent as if either party requested the information. Third, whenever a litigant interacts with a blind expert prior to the rendering of an opinion, the adversary should be allowed equal access and the interactions should be recorded or otherwise documented. With these principles in mind, interactions between

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[291] *See* discussion *supra* Part II.B (outlining proposed role for intermediary and selection of blind experts). A potential disadvantage of having a single intermediary would be the potential for monopoly pricing. Thus, the intermediary should be not-for-profit and operated for the public benefit. On the other hand, a single intermediary could also allow the litigants to reduce the costs of the procedure if they each independently agreed to share a single opinion, so long as the other side also requested one and so stipulated. This alteration would reduce the accuracy to the same level as a court-appointed expert, but it would otherwise retain the basic rationality of the procedure.

[292] *See supra* note 175.

the litigant and the expert—which would be necessary regardless of whether the expert were a blind expert, an unblind expert, or a court-appointed expert—can be relatively harmless.

2.   Compensation Issues

To set experts' compensation, the intermediary would function as a broker for litigants and experts. One way to structure this market would be through a one-shot, sealed-bid auction, where each side confidentially sets a reservation value. Each expert would specify the minimum hourly fee at which she is willing to work. Each litigant would specify the maximum hourly fee he is willing to pay. Experts whose fee demands are at or below that level would be eligible for selection, and if selected they would be paid at their demands, not at the litigant's maximum.

Although experts will be paid for their *initial* opinion regardless of its content, one might worry that this payment structure may encourage experts to provide more extreme opinions or express inflated levels of confidence in their opinions in order to garner *subsequent* pay for testimony in the same case. This bias may arise if the expert assumes that litigants will discard moderate opinions.[293] Whether or not this compensation structure will *actually* bias experts toward the extremes is a testable empirical question.

However, if the blind procedure does attract a broader and more representative pool of practicing professionals, who are paid at or near their opportunity cost for their work, then they might not be particularly motivated to pursue pay for testimony. Instead, they may prefer to spend their time reviewing cases and treating patients, instead of sitting in depositions and trials. Thus, blind experts may not act strategically to secure subsequent jobs testifying but may instead call the cases as they see them.

Even if there is a bias to the extremes, it may not be deleterious. In litigation, the social goal is efficient accuracy in trial outcomes and settlements, and an expert's bias toward the extremes may actually improve jury decision-making in an adversarial system. If a jury is faced with an equivocal blind expert on one side, and a powerful statement by an unblind expert on the other, the jury may incorrectly follow the unblind expert, even though he is likely biased in both the direction and magnitude of his testimony. Thus, we actually may

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[293] Or an expert might make the opposite assumption and write middling, noncommittal opinions, fishing for a hire from either side, and then attempt to mold the opinions once the blind is lifted. This would create the opposite bias.

prefer it if the blind procedure eliminates the directional bias without eliminating the magnitude bias.

D.   *Institutional Progress and Future Research*

The game theoretic analysis in Part IV showed that the blind procedure is a rational strategy for litigants. So why has the blind procedure not already been implemented? Does the absence of this procedure imply its unworkability?

A complete answer to the first question would depend on a theory of intellectual progress and professional change, which can only be gestured toward here. Nobody suggests that doctors have already conceived of and implemented every possible advance for the practice of medicine, and there is likewise no reason to assume that attorneys have already done so for law. Even if some attorneys *had* conceived of the notion of blind expertise, they would have lacked the infrastructure to implement the idea. After all, lawyers are in the business of prosecuting or defending their cases. Once a case is underway, it is impracticable to find or create an intermediary that would blindly select and retain an expert, and the litigant's role in creating the intermediary for this novel task would undermine any potential gain in credibility. Therefore, one direction for future study is to survey lawyers and conduct a natural experiment to see what litigants do once the idea is circulated and the infrastructure is created.

Other empirical work is necessary. This Article has been rife with assumptions about empirical questions—from the frequency of blind experts' errors to the transaction costs of the blind procedure. If anything, this Article is a roadmap for empirical inquiry. We need to understand the market for expertise and the behavior of the participants therein.

This Article has explored the workings of a blind expert procedure in civil litigation, and medical malpractice in particular. Yet med-mal is merely a prototype for the basic concept. The problem of litigant-induced bias likely arises wherever expert witnesses are employed in litigation, from products liability cases to employment discrimination cases, and the blind procedure may be salutary in these other domains as well.

Beyond litigation, variants of the blind procedure potentially have application to any context where experts are relied upon to conduct research or render opinions when they may have conflicts of interest. Indeed, in some ways it is more important to prevent bias in journal articles than it is to eliminate bias in courtroom witnesses since the latter depend for their science on the former, which are often

funded and shaped by interested parties.[294] Such conflicts should be eliminated wherever possible, and those who proffer, render, or rely upon unblind expertise should bear the burden of showing why a blind expert was not used instead.

Looking even more broadly, free-market and liberal philosophies of regulation put great emphasis on individual decision-making by presumably autonomous laypersons who are acting as consumers, patients, investors, and voters. Yet there are many contexts—from securities and mortgage brokerages to medical clinics and biomedical research centers—where laypersons must rely upon experts to advise them, and where commercial interests may bias those experts. It may not be enough to require securities analysts to disclose their interests in the companies that they rate, and it may not be enough for biomedical researchers to disclose to participants their interest in an outcome. Laypersons may also need alternative sources of objective advice. Some legislatures are moving in this direction with particular financial regulations.[295] Blind procedures may be part of the solution.

Conclusion

To be sure, this Article is not the first to examine the problem of biased expert witnesses—litigators, scholars, judges, and legislators have grappled with this problem for more than a century. Unfortunately, many have taken for granted the notion that biased expertise is an inherent part of the adversarial system of litigation. This Article has shown why that assumption is false, and it has explained how blind expertise can help meritorious litigants win their cases and improve the accuracy of the litigation system. As such, this Article offers a privately ordered solution to one part of an ancient public problem, that is "the connection [that] subsists between [man's] reason and his self-love."[296]

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[294] *See generally* Thomas O. McGarity & Wendy E. Wagner, Bending Science: How Special Interests Corrupt Public Health Research (2008) (describing ways in which scientific process is corrupted by special interests). This problem has not gone unnoticed by the courts. *See, e.g.*, *In re* Zyprexa Prods. Liab. Litig., 253 F.R.D. 69, 106 (E.D.N.Y. 2008) (Weinstein, J.) ("The pervasive commercial bias found in today's research laboratories means studies are often lacking in essential objectivity, with the potential for misinformation, skewed results, or cover-ups.").

[295] *See, e.g.*, Mass. Gen. Laws Ann. ch. 167E, § 7(e) (West 2009) (requiring that banks shall not make reverse mortgages until prospective borrowers have received independent advice as to appropriateness of product).

[296] The Federalist No. 10, *supra* note 2, at 41; *see also* Vermeule, *supra* note 147, at 403–05 (discussing views of James Madison and describing Constitution's means of constraining self-interested decisionmaking).

APPENDIX

This Appendix offers mathematical equations, tables, and analyses that support the argument made in the body of this Article. The parts of the Appendix correspond to relevant parts of the Article.

Pertaining to Part II.C
The Blind Procedure as Truth-Signal

Regarding the blind procedure as truth-signal, define (e) as the "ex ante error rate"—i.e., the frequency of errors in blind experts' initial opinions. Define the "ex post error rate" (q) as the odds that, when both parties try the blind procedure, and only one blind expert is presented to the factfinder, that expert is incorrect. This relationship is given by equation (1):

$$\text{Equation (1): } q = \frac{e^2}{e^2 + (1 - e)^2}$$

With our assumed initial (e) of 5%, the expected ex post error rate (q) is 0.28%. Table 5 shows the ex post error rates (q) given other ex ante error rate (e) assumptions, along with the frequency of signal rate (f), which is the proportion of all cases in which both parties try the blind procedure and only one party secures a favorable opinion. This relationship is given by equation (2):

$$\text{Equation (2): } f = 1 - [e(1 - e) + e\,(1 - e)]$$

TABLE 5
EX POST ERROR RATES AND FREQUENCY OF SIGNALS
BY EX ANTE RATES

ex ante error rate (e)	ex post error rate (q)	frequency of signal (f)
1%	0.01%	98.0%
5%	0.28%	90.5%
10%	1.22%	82.0%
15%	3.02%	74.5%
20%	5.88%	68.0%
25%	10.00%	62.5%
30%	15.52%	58.0%
35%	22.48%	54.5%
40%	30.77%	52.0%
45%	40.10%	50.5%
50%	50.00%	50.0%

Pertaining to Part III.B
Special Issues with Expert Accuracy in Med-Mal

This is the analysis for the model simulating the blind procedure in med-mal with a postulated residual bias by blind experts in favor of defendants. Continue to assume that $e = 5\%$. Further assume the residual bias (b) of experts within the pool of blind experts who say "no malpractice" for any case presented is 30%. Assume that each litigant tries the blind procedure. As shown in Part II.C above, the blind procedure only sends a signal when both experts agree, even though only one of those experts is shown to the jury.

For the subset of cases in which there was medical malpractice (i.e., plaintiff should win), in 44.22% of the cases both blind experts will be correct, but both blind experts will be incorrect 11.22% of the time. These are given by the following calculations:

$$[(1 - b)(1 - e)]^2 = 44.22\%$$
$$[b + (1 - b)e]^2 = 11.22\%$$

In the remaining 45% of the malpractice cases, the blind experts will disagree and thereby send no signal.

For cases where there was no malpractice (i.e., defendant should win), the blind procedure will send an accurate signal in 93.12% of the cases, and an inaccurate signal in 0.12% of the cases. These are given by the following calculations:

$$[b + (1 - b)(1 - e)]^2 = 93.12\%$$
$$[(1 - b)e]^2 = 0.12\%$$

In the remaining 7% of the no-malpractice cases, the procedure sends no signal.

When these figures are compared to those in Table 1 above, one can observe that, in cases in which the plaintiff should win, the residual bias (b) increases the odds that the blind experts will both err, and it also decreases the frequency that the blind procedure will send any fact-signal at all. On the other hand, in cases in which the defendant should win, the residual bias (b) decreases the blind experts' errors and increases the frequency of signals.

Table 3 is expanded to include these new findings as Table 6 below.

TABLE 6
MEDICAL MALPRACTICE TRIALS WITH SIMULATED BLIND
PROCEDURE INTERVENTION ASSUMING
RESIDUAL BIAS
(ASSUMING *e = 0.05* AND *b = 0.30*)

Studdert and Mello's Data			Blind Procedure Simulation		
Truth		Outcome	Blind Expert Contrary Signals	New Outcomes	
Malpractice	91 (44%)	P wins	39 (43%)	4 (11.22% × 39)	P wins	58 (63%)
		D wins	52 (57%)	23 (44.22%×52)	D wins	33 (37%)
No Malpractice	117 (56%)	P wins	11 (9%)	10 (93.12%×11)	P wins	1 (1%)
		D wins	106 (91%)	0 (0.12%×106)	D wins	116 (99%)
		Accuracy	70%		Accuracy	84%

Pertaining to Part IV.A & .B
Game Theoretic Analysis

The following are the postulated variables and their initial values:

c = $500: Intermediary's charge for selecting expert and interposing blinds

f = $2000: Fee for unblind expert's initial opinion

s = $1,000,000: Stakes of case, equal to expected net recovery at win (damages)

m = 0.1: Marginal benefit of unrebutted blind to odds of prevailing in case

e = 0.05: Ex ante error rate of blind experts

r = 0.5: Perceived likelihood that truth is favorable to litigant

As for the top-right (try, don't try) and bottom-left (don't try, try) boxes of Table 4, there is a 50% chance (*P*) of the trying party getting a favorable opinion, assuming that *r* = 0.5. This is based on the equation (3):

Equation (3): $P_{(getting\ favorable\ opinion)} = r(1 - e) + e(1 - r)$

Recall the assumption that the trying litigant pays the intermediary's cost (*c*) and the expert's fee (*f*) regardless of whether the opinion is favorable, but when the opinion is favorable the intermediary's fee (*f*)

normally offsets an equivalent cost that the litigant would have to pay to purchase an unblind expert opinion. Thus, on net, (*f*) is only imposed when the opinion is unfavorable. Therefore, the payoff (*G*) for the trying party is given by:

$$G_{(try)} = -c + (P_{(favorable\ opinion)} \times ms) - (P_{(unfavorable\ opinion)} \times f)$$

or

Equation (4): $G_{(try)} = -c + r[(1 - e)ms] + (1 - r)(ems) - ref - (1 - r)(1 - e)(f)$

The non-trying party's payoffs are also determined by the trying-party's probability of getting a favorable opinion, and are given by:

$$G_{(don't\ try)} = P_{(favorable\ opinion)} \times (-m)(s)$$

or

Equation (5): $G_{(don't\ try)} = r(1 - e)(-m)s + (1 - r)(e(-m)s)$

The values for the (try, try) profile in the bottom-right box in Table 4 are given by the following analysis. Consider four possible outcome worlds ($\acute{\omega}_1$, $\acute{\omega}_2$, $\acute{\omega}_3$, $\acute{\omega}_4$) corresponding to the cells in Table 1 (clockwise), according to how many blind experts (B.E.) appear at trial. Assume that one player (*T*) has truth on his side versus the other player (*F*) who is litigating against the truth. For each outcome, let $G(\acute{\omega}_n)$ be the set of payoffs for each party as (*T*, *F*). Let $\pi(\acute{\omega}_n)$ be the probability of that outcome set obtaining. The variable *r* represents the odds that a litigant is *T* versus *F*, across all outcomes. The equations are shown in Table 7:

TABLE 7
PROBABILITIES AND PAYOFFS FOR EACH CELL IN TABLE 1

Outcome	Probability	Payoff
One B.E. for *F* ($\acute{\omega}_1$)	$\pi(\acute{\omega}_1) = e^2$	$G(\acute{\omega}_1) = (-c - f - ms, -c + ms)$
No B.E.s ($\acute{\omega}_2$)	$\pi(\acute{\omega}_2) = e(1 - e)$	$G(\acute{\omega}_2) = (-c - f, -c - f)$
One B.E. for *T* ($\acute{\omega}_3$)	$\pi(\acute{\omega}_3) = (1 - e)^2$	$G(\acute{\omega}_3) = (-c + ms, -c - f - ms)$
Two B.E.s ($\acute{\omega}_4$)	$\pi(\acute{\omega}_4) = e(1 - e)$	$G(\acute{\omega}_4) = (-c, -c)$

The total value of the (try, try) strategy is given by equation (6):

Equation (6):

$$(try, try) = r(\sum_{i=1}^{4} \pi(\omega_i) G_T(\omega_i)) + (1 - r)(\sum_{i=1}^{4} \pi(\omega_i) G_F(\omega_i))$$