
16. Empirical analysis of juries in tort cases

Shari Seidman Diamond and Jessica M. Salerno

1. INTRODUCTION

Throughout its history, the jury has attracted both stiff criticism and unqualified praise, viewed by turns as an incompetent, naïve, and biased decision maker and as an astute repository of folk wisdom and common sense. Here, we examine how the American jury actually behaves in the tort cases that produce the majority of civil jury trials. The evidence shows that juries usually use reasonable strategies to evaluate the conflicting evidence they are given. They are active problem-solvers who typically work to produce defensible verdicts. Nonetheless, juries are occasionally misled by the strategies they rely on to reach decisions. Their decision making processes are also at times undermined by limitations, many of them unnecessary, imposed by the legal system.

In this chapter, we discuss the empirical literature relating to jury decisions in tort cases. For additional discussion on related topics in this volume, see the chapters on the empirical analysis of tort reform (Eisenberg, Chapter 20), tort damages (Viscusi, Chapter 18), and state court tort decisions (Heise, Chapter 2). Our empirical analysis of juries proceeds as follows. Empirical analysis involves a choice of both an empirical method and a theoretical framework for developing hypotheses. In Part 2 we (a) describe the various methods that are used to study jury behavior, and (b) outline the difference between the external perspective of economic theory and the internal perspective of jurors. In Part 3 we examine the behavior of the jury in tort cases, beginning with an overall view of the approaches jurors generally take in reaching decisions. We then assess how jurors deal with the key topics associated with charges of jury incompetence and bias: decisions on liability; expert testimony; corporate defendants; separating decisions on liability and damages; assessment of compensatory damages; decisions on punitive damages; and comprehension and application of the law. Finally in Part 4 we consider which aspects of less than optimal jury performance constitute insurmountable obstacles and which limitations can be overcome.

2. METHODS AND THEORY

A. Empirical Methods Used to Study Juries

The primary methods used for empirical studies of the jury are: (1) archival research on jury verdicts; (2) post-trial interviews with jurors; (3) experiments with real and simulated juries; (4) observations of real jury deliberations; and (5) surveys of other trial participants (judges, attorneys).

1. Archival research

In archival studies of jury behavior, researchers gather data on case characteristics and jury verdicts from completed trials to analyze verdict patterns and the ability of the measured case characteristics to predict plaintiff win rates and damage patterns. Archival jury data are collected from two primary sources: courts (e.g., Cohen, 2009) and commercial jury verdict reporters (e.g., Daniels & Martin, 1995). Researchers have monitored changes in verdict patterns over time (e.g., Seabury, Pace & Reville, 2004) and used those patterns to assess the impact of various tort reform efforts on the jury (Eisenberg, 2012). Some widely used archival sources, however, are limited by selection biases that can produce misleading results. Most commercial jury verdict reporters depend on the reports of the litigating attorneys for information on their cases, which may result in incomplete data because attorneys (1) fail to provide information on some cases, and (2) do not provide accurate information on reported cases. Studies based on jury verdict reporters reveal a systematic overrepresentation of cases resulting in pro-plaintiff verdicts. Merritt and Barry (1999) found an underrepresentation in defense verdicts and lower damage awards (see also Sloan & Hsieh, 1990). More recently, Lee and Waters (2011) compared a group of verdict reporters with the actual court data collected in the 2005 Civil Justice Survey of State Courts and found that although the commercial verdict reporters did not display a significant bias in liability proportions, they, like media coverage (e.g., Bailis & MacCoun, 1996), were significantly biased in favor of the publication of cases with large awards.

In addition, a general limitation of most archival jury studies is that the case information available from even the best archival source typically includes only a limited number of variables (e.g., Goerdt, Ostrom, & Rothman, 1995). As a result, for example, studies using archival data to explain variations in jury verdicts may underestimate the variation that can be explained by characteristics of the evidence (e.g., the nature of the plaintiff's injury) presented at trial.

2. Post-trial reports of jurors

Scholars also use post-trial reports to gauge juror impressions of the evidence and to obtain a view of the deliberation process through the eyes of the participating jurors (e.g., Vidmar, 1995; Ivkovich & Hans, 1994; Sanders, 1993; Selvin & Picus, 1987). A limitation of this method is that juror post-trial reports, however sincere, are likely to be imperfect reconstructions of what occurred earlier (e.g., post-trial reports of initial impressions that changed in the course of deliberations). Some reports may be more accurate than others. For example, in interviews conducted immediately after trial jurors are likely to have better recall and are less likely to have had post-trial influences affect their impressions. Similarly, if a substantial majority of the jurors from the same jury report, for example, that their jury discussed insurance, that report is more likely to be trustworthy than if a single juror reports that insurance was discussed. Jurors are likely to be less accurate in assessing and recounting the consequences of their discussion, (i.e., in reporting whether that discussion affected their verdict (Guinther, 1988)), particularly if admitting that it affected them would be socially undesirable because they were admonished not to consider it.

3. Experiments with jurors and juries

Experimental analysis can take the form of laboratory experiments or field experiments. Experiments provide the opportunity to isolate the effect of particular treatment (e.g., an

attorney's ad damnum) on outcomes. In a well-designed experiment, the only difference between the set of participants receiving the experimental treatment and the set in the control group is the experimental treatment itself (e.g., the attorney's ad damnum). Thus, any differences in outcomes can be directly attributed to the experimental treatment. Beyond this, a well-designed experiment captures the core features of the environment the experimenter seeks to study and represents the participant characteristics that may affect participant responses.¹ Thus, for example, the external validity of mock jury experiments may be weakened when the trial materials omit cross-examination or use college student participants. In a field experiment, actual trials are assigned to varying conditions (e.g., jurors in some trials are permitted to ask questions, while jurors in other trials are not permitted to ask questions). When these experiments involve jury trials, they require substantial cooperation from the courts and close monitoring to ensure that random assignment to experimental conditions is being successfully implemented (e.g., Heuer & Penrod, 1994; Diamond et al., 2003). Not surprisingly, field experiments on jury trials are relatively rare.

In mock jury experiments, by far the most widely used method of studying the jury, jurors or juries are also randomly assigned to experimental conditions, but the trials are simulated (although they may be drawn from real trials). A key strength of mock jury experiments is that they combine control with the opportunity to examine the process of decision making. Simulated trials vary in the degree to which they approximate the conditions of a real trial. The closest approximations involve videotaped trials that include witnesses, arguments and instructions, jurors who participate during their jury service, and deliberations. The extent to which behaviors observed in the less elaborate simulations, or indeed in the more elaborate simulations, mirror the behavior of real juries is unknown. Some evidence, however, shows substantial correspondence between verdict results from simulations that vary in realism, suggesting that not all differences will affect the results (Bornstein, 1999). Nonetheless, if experiments use minimalist stimulus materials that omit elements likely to affect responses, generalization from those experiments can be misleading.

4. Observing jury deliberations

An obvious way to study the behavior of any decision making body is to watch it as it reaches its decisions. An early effort to directly monitor several juries by audio taping their deliberations (Kalven & Zeisel, 1966) was short lived. It ended in an uproar when one of the tapes was played at a judicial conference (Katz, 1972). The result was legislation prohibiting the recording of jury deliberations in federal courts and in most state courts. Aside from the analysis of a few deliberations videotaped for television (e.g., Maynard & Manzo, 1993; Manzo, 1996), which might not generalize to jurors who did not agree in advance to have their deliberations televised (American Judicature Society, 2003), researchers have not been permitted to observe or record jury deliberations. In the Arizona Jury Project—the single exception to this pattern—a team of researchers, with permission from the Pima County Superior Court in Arizona, jurors, attorneys, and litigants, was allowed to videotape 50 actual civil jury trials and deliberations as part of a

¹ For additional discussion of jury simulation experimental methodology, see Diamond (1997); for a more general treatment of experimental methodology, see Shadish, Cook, & Campbell (2001).

field experiment examining the effect of recent jury reforms on jury behavior (Diamond et al., 2003). Conclusions about jury decision making processes drawn from this dataset are discussed in Parts 3A and H and Part 4 below.

5. Comparing judges and juries

Another empirical approach bridges these different data sources (e.g., archival, experimental) and is based on a comparison between jury and judges' decisions, rather than focusing exclusively on factors affecting jury decisions. Scholars have compared the trial verdicts of judges and juries in an attempt to assess whether they have different verdict patterns (e.g., Clermont & Eisenberg, 1992; Eisenberg, Rachlinski & Wells, 2002; Hersch & Viscusi, 2004; Heuer & Penrod, 1994). This comparison is important given that inherent in any praise or criticism of the jury system is an implicit comparison to the only viable alternative: a judge. As Clermont and Eisenberg concluded, the selection processes that lead to a bench versus a jury trial always leave doubt about the comparability of the sets of cases decided by each of them. Because litigant choices determine whether a jury or judge is the decision maker, there are likely to be differences between the types of cases that juries (versus judges) hear which may explain verdict patterns. As a result of this selection bias, conclusions about both similarities and differences may be misleading.

Kalven and Zeisel (1966) developed a creative method for comparing jury and judge decisions that largely overcomes this selection problem. They asked trial judges to report how they would have decided each jury trial they presided over if it had been a bench trial. To the extent that judges generally filled out the questionnaire before knowing the jury's verdict, this method provides an independent judicial decision in precisely the same case that the jury decided. Kalven and Zeisel asked the judges to indicate their preferred verdict before the jury returned, but did not ask whether they actually did. A few researchers (Diamond et al., 2003; Hannaford, Hans, & Munsterman, 2000) have used the same method, but have also asked if the judge answered the question before the jury returned its verdict.

A third form of judge-jury comparison uses lay and judicial participants in parallel versions of the same survey or experiment. This method enables the researcher to compare judge and jury responses to the same trial stimulus materials. For example, Landsman and Rakos (1994) tested the ability of judges and jurors to ignore inadmissible evidence. In an experiment, they produced three versions of a vignette involving a products liability tort case that differed only in whether a piece of potentially biasing evidence had been admitted, whether the decision maker learned about it but it had been ruled inadmissible, or whether they did not learn about it. Exposure to the biasing information, whether inadmissible or not, increased liability verdicts of both the judges and jurors.

6. Combining methods

When we combine the results from archival, experimental, post-trial interviews, and observational studies of the jury, the picture that emerges does not resemble the extreme image of the runaway jury. Nor does it reflect an economic ideal decision maker primed to reach decisions that produce optimal care.

B. Role of Theory

Good empirical analysis is informed by theory. We focus here on two theoretical perspectives that lead to contrasting predictions about jury decision making: (a) traditional economic theory, predicting that juror decision making will conform to rational choice theory, versus (b) psychological theories, predicting ways in which jurors' decision making should systematically deviate from rational choice theory.

1. An economic perspective

Traditional economic theory assumes that individuals behave in ways that maximize utility. The implications of this theory depend on whether individuals gain utility from performing a public service and promoting justice. If people care only about their own direct welfare, citizens would avoid jury duty and, when unable to escape service, minimize the time they spend as jurors with hasty deliberations aimed at swift verdicts. Although some citizens could gain emotional and civic benefits from jury service that might foster engagement, a sizeable proportion of citizens do attempt to avoid service by failing to respond to summonses (Taylor, Ratcliffe, Dote, & Lawton, 2007) and giving answers to questions during jury selection that are likely to result in excuse or dismissal (Cosper, 2003; Rose, 2005; Rose & Diamond, 2008). Yet the consistent picture of jurors who are seated in a trial shows that they tend to be motivated and remarkably diligent in attempting to reach the "right" verdict (Diamond, 2012; Feigenson, 2000). Of course, that evidence of effort does not mean that jurors pursue or achieve verdicts that are consistent with either economic or any other normative theory. Thus, it is important to consider what the "right" verdict means and how it comports with the goals the legal system appears to endorse.

According to the economic view of tort law, juries (and judges) should decide on liability and damages so that potential plaintiffs and defendants will efficiently allocate resources to safety (Landes & Posner, 1987). The optimal economic result for accident law is to minimize the sum of the costs of accidents and the costs of avoiding accidents (Calabresi, 1970). Thus, juries (and judges) should assess whether a defendant was negligent solely by focusing on the probability that the defendant's behavior would cause an accident, the cost of engaging in behavior that would avoid an accident, and the expected value of the damages that would be caused if an accident occurred. That is, they would gauge whether or not the defendant's behavior reflected optimal care.

2. A psychological perspective

We can be fairly certain that juries do not have optimal allocation of costs and benefits in mind as they decide cases—although some jurors do refer to general deterrence motives, in addition to specific deterrence motives, in post-trial interviews (Hans, 2000). Indeed, the legal system does not directly instruct jurors to optimize allocation of costs and benefits in assessing liability and damages in the typical tort case involving claims for compensatory damages. The closest jury instructions come to signaling the goal of optimal care occurs when the instructions tell the jury to evaluate the reasonableness or recklessness of the defendant's behavior, and in a comparative fault case, the reasonableness of the alleged victim's behavior. The definition and components of reasonableness are undefined. Even in cases in which punitive damages are claimed, jury instructions do not include factors

like probability of detection that are relevant to optimal deterrence. Moreover, some research suggests that neither judges nor juries would be receptive to a suggestion to consider such issues (Baron & Ritov, 1993; Sunstein, Schkade & Kahneman, 2000).

What do jurors try to do and how well do they succeed? Jurors in tort cases have multiple, sometimes competing, goals. As Neal Feigenson describes it, they try to reach decisions that are just—which sometimes may be more justice than the law recommends (2000). The first goal is to produce a defensible verdict that accurately reflects what they believe the evidence has shown. This motivation shows up in various ways: in the disappointment expressed by jurors in the small minority of cases that fail to reach a verdict, or in the frequent question jurors pose to the judge after delivering a verdict—did we get it right? (Diamond, 2012). Jurors do occasionally express the view that their verdict should “send a message,” primarily when punitive damages are at issue and they are instructed that deterrence is a goal. Yet jurors deciding only liability and compensatory damages generally focus on achieving the appropriate balance between the parties in the case in light of their actions and any injuries that have occurred (Diamond, 2012; Feigenson, 2000). Thus, they focus more on internal considerations (i.e., the parties in the case), than on external considerations (i.e., the impact of their decision on the future behavior of potential plaintiffs and defendants).

One example of the potential conflict between these two perspectives can be found in the way attorney’s fees are treated by the legal system and viewed by the jury, which is not instructed on that topic. Parties in the American tort system typically must pay their own attorney’s fees, an approach intended to discourage frivolous lawsuits. The legal system excludes information about insurance from the jury’s consideration for a variety of reasons (e.g., to avoid incentivizing potential plaintiffs from not purchasing insurance or bringing unjustified legal actions) (see Baker and Siegelman, Chapter 7, this volume). From the jurors’ point of view, however, the mandate to compensate the plaintiff makes both attorney’s fees and insurance relevant. Full compensation should not require the plaintiff to pay her attorney out of the amount that would fully compensate her for the injuries caused by the defendant’s negligent or reckless behavior. Similarly, the plaintiff may not require compensation, in the jury’s eyes, if insurance has already covered her expenses (Diamond & Vidmar, 2001). The failure to instruct the jury on these “forbidden topics” leaves the jury without guidance on how to handle them (Diamond, Murphy & Rose, 2012). Thus, while the legal system may intend to exclude attorney’s fees as an element of compensation in the interest of optimizing potential litigant behavior, the jury faced with the allocation of costs between parties is explicitly blindfolded to that design.

3. WHAT JURIES DO

A. General Models of Juror and Jury Decision Making

Most jurisdictions treat jurors as passive participants in the trial until their deliberations begin. Jurors are admonished to watch and listen carefully, but to wait to form any impression or reach a judgment until after all of the evidence is presented and they have been instructed on the law. The image of the docile and passive juror does not comport with

reality (Bennett & Feldman, 1981; Diamond & Casper, 1992; Pennington & Hastie, 1991). Jurors enter the courtroom with preconceptions and expectations that affect the way they react to evidence. They actively search for causal explanations to make sense of what they are hearing and seeing, and they fill in gaps and interpret ambiguities in ways that influence their decisions. Although it is possible to imagine an algebraic method of decision making in which a decision maker gives each piece of evidence a value (pro-plaintiff or pro-defendant) and a weight, and then combines the results algebraically to reach a verdict, this mechanical approach does not describe the decision making process of jurors. Nor have more elaborate mathematical modeling efforts (e.g., Bayesian accounts) captured what jurors do (Hastie, 1993).

A more cognitively grounded, and more widely accepted, model of individual juror decision making is the story model. According to this model, decision makers (juries and judges) employ an explanation-based judgment process. They construct a summary mental picture of what decision-relevant events occurred and the causal relations among them (Pennington & Hastie, 1991). The construction of a cognitively coherent explanation is a central focus of related decision models as well (e.g., Simon, 2004). Jurors select, organize, elaborate, and interpret the evidence, drawing inferences to connect the pieces to develop an explanation-based narrative. Each decision maker utilizes a general comprehension strategy for understanding human action that includes some features that tort law may not consider legally relevant (e.g., the defendant's motive for speeding, see Nadler, 2012). According to the story model, the final stage involves matching this evidence representation to the verdict categories. The story model was developed and tested primarily in a criminal context, and has been applied to punitive damages decisions (Hastie, Schkade, & Payne, 1998). Nonetheless, the cognitive grounding of the model makes a useful starting point to describe what jurors do in negligence cases as well.

The real deliberating juries we have observed in tort cases (Diamond et al., 2003) reveal some additional features about how jurors evaluate evidence and construct a narrative that explains the events that led to a trial. When jurors begin their deliberations, many hold only tentative views about the most plausible version of what happened and a rough understanding of the legally relevant criteria for reaching a verdict. As a result, the deliberation process often involves an early consideration of the content of the jury instructions (Diamond et al., 2012). Overall, the jurors attempt to develop the most plausible reconstruction of the events by pooling their assessments of the incomplete and conflicting stories that the witnesses tell. They are sensitive to apparently inconsistent behavior and testimony, within and across witnesses (Diamond et al., 2006). They pore over the evidence relating to the time line when it is crucial in attributing causation. They are aware that experts are being paid to testify, and assess both credentials and content in evaluating how much to rely on what the experts say. In nearly every case, jurors draw on their various prior experiences, often to determine whether a witness is credible and behavior is reasonable (e.g., are workplace safety rules typically followed when workers are not trained and regularly monitored?). Jurors are also attentive to some sources of information that come from beyond the witness box (e.g., how was the plaintiff who claims he cannot sit in one position for more than 30 minutes able to sit for much longer than that in the courtroom? (Rose et al., 2010).

Jurors in a minority of cases may begin their deliberations in agreement, but in the

majority of cases there is more than one way to view the evidence.² Deliberations may begin with a vote “to see where we stand” or, more often, with an attempt to construct a group understanding of the evidence. Despite the common image that the jury nearly always takes a vote at the beginning of deliberations, in both the real and simulated jury deliberations we have observed, early calls for a vote are frequently derailed by discussion about the evidence or the instructions (Diamond & Casper, 1992; Diamond et al., 2012). Moreover, the longer the trial, the longer the prevote discussion. This suggests that a heavier evidentiary load leads to more processing time before jurors attempt to reach a verdict (Diamond et al., 2003). In the real jury deliberations we observed, half of the questions raised during deliberations and the misstatements jurors made about the law were explicitly addressed and corrected in the course of the deliberations (Diamond et al., 2012).

Studies in the laboratory reveal some additional features of jury deliberations. Although participation in juries, as in other small groups, is not equally shared, the jurors who participate more during deliberations tend to have better comprehension levels (Diamond, 2006). Although education is a predictor of both participation and influence, a juror’s ability to comprehend the testimony presented in that particular case independently enhances juror participation and influence (Diamond & Casper, 1992).

With this overall picture of how jurors go about their task, we turn now to the specifics of jury behavior that have attracted interest and research in tort cases.

B. Decisions on Liability

The model of the unreasonably sympathetic jury whose emotions overwhelm reason, leading to awards based on flimsy evidence on liability, finds little support in studies of jury behavior. If anything, the average juror in a modern tort case is suspicious that the plaintiff’s claims may be unwarranted. She is inclined to believe that there are too many frivolous lawsuits today and that plaintiffs who sue and receive money damages in general receive too much rather than too little (Diamond, Saks & Landsman, 1998). Jurors, perhaps surprisingly, are willing to “blame the victim” rather than to hold the defendant responsible for the plaintiff’s injury (Hans, 2000; Hans & Dee, 2003).

Similarly, archival research provides little support for claims in the popular press that jurors are indiscriminately pro-plaintiff. Juries in state courts nationwide during 2005 found in favor of plaintiffs in 51 percent of tort cases, with win rates varying from 22.7 percent in medical malpractice trials to 78.0 percent in animal attack cases (Cohen, 2009). Juries decided 90 percent of the tort trials. The win rate for judges in the remaining 10 percent of cases was 56.2 percent. The overall win rate for jury tort trials in 2005 roughly replicates the 49 percent rate obtained in the 1990s (Ostrom, Rottman & Goerdt, 1996).

The jury verdict pattern can, of course, be explained in a way that is consistent with the existence of a pro-plaintiff jury: if defendants anticipate correctly that the juries tend to be pro-plaintiff, they may be more willing to settle weak cases, taking their chance with

² This is what we would expect if the parties make rational decisions about whether to settle or go to trial. See generally Abraham Wickelgren, Chapter 13 and Linda Babcock & Joshua Furgeson, Chapter 14 in this volume.

a jury only when the evidence strongly favors them. A 50 percent win rate could be the result. Nonetheless, as a descriptive statement of what juries do with the cases they decide, it is inaccurate to say that juries generally find in favor of the tort plaintiff. Moreover, whether we examine the behavior of simulated juries, review post-trial interviews with real jurors, or watch real civil juries deliberating, we find jurors who are highly suspicious of plaintiffs and unsympathetic when they encounter complaints from individuals they suspect may be whining or greedy (e.g., Hans, 2000). The few studies that have compared the liability verdicts of judges with those of jurors have shown no tendency for jurors to be more inclined to find for the plaintiff than are judges (Clermont & Eisenberg, 1992; Heuer & Penrod, 1994; Kalven, 1964). Of course, we cannot directly assess what win rate would be produced by an entirely unbiased decision maker, but the empirical landscape reveals no wild pro-plaintiff bias by juries and no evidence that juries are more pro-plaintiff on liability than are judges.

The assumption that jurors favor plaintiffs is further challenged by an examination of the outcomes of 1452 closed malpractice claims from insurance companies across the United States (Studdert et al., 2006). Independent medical experts judged the merit of each case by reporting whether the adverse outcome was due to medical error. The majority of case outcomes (73 percent) were consistent with the independent experts' assessment of their merit. When the outcome was *not* consistent with the case merit, juries were more likely to have not compensated a case that included medical error (16 percent) than to have compensated a case that did not include medical error (10 percent). In other words, they were more likely to err in favor of the doctor defendant, rather than the plaintiff.

C. Expert Testimony

Modern trials increasingly involve experts who present technical and scientific evidence (Gross, 1991). Even in the standard auto collision trial, engineering experts may testify about the relationship between the speed at which the collision occurred and the impact on those involved, medical experts may evaluate and make predictions about future medical needs, and economic experts may testify about future earnings.

Expert testimony represents a challenge for both judges and jurors. Although judges are legal experts, at least as compared to most juries, neither judge nor jury is likely to be an expert on the technical substantive content that an expert may present. Moreover, a jury is more likely to have at least one member who has a relevant substantive background in, for example, engineering. In general, there is no evidence that complexity induces a greater rate of disagreement between judges and juries on the appropriate verdict (Heuer & Penrod, 1994). Thus, while complexity presents a challenge to legal decision making in general, the challenge may be unavoidable and not unique to juries.

Consider the Bendectin cases of the 1980s and 90s, which involved the issue of whether the anti-nausea drug Bendectin caused plaintiffs' birth defects. Judges and juries were asked to evaluate complex scientific and statistical evidence that was the subject of heated controversy among highly educated scientists from prestigious universities. When the U.S. Supreme Court in *Daubert v. Merrell-Dow Pharmaceuticals, Inc.* (1993) remanded one of the Bendectin cases for a judicial determination on the admissibility of expert evidence, Judge Kozinski commented wryly on the challenge, observing:

Our responsibility, then, unless we badly misread the Supreme Court's opinion, is to resolve 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," and occasionally to reject such expert testimony because it was not "derived by the scientific method." (*Daubert v. Merrell-Dow Pharmaceuticals, Inc.*, 1995, 1316).

Such complex evidence presents a challenge for the experts who must communicate with a lay audience, for the judge who acts either as a gatekeeper in ruling on which experts can testify and what they can say or as the trier of fact, and for the lay jury.

Juries do appear to take their job of evaluating expert testimony seriously. Surveys of jurors indicate that they find expert testimony to be useful, but are wary of experts. For example, in a survey of jurors, 30 percent said, "experts provided biased testimony" (Shuman, Whitaker & Champagne, 1994). Similarly, Diamond and Casper (1992) found that jurors view experts as relatively competent and likely to be knowledgeable, but expect experts to be influenced by the side that called them. The credibility of communicators tends to be influenced by their perceived expertise and their perceived trustworthiness (e.g., Eagly & Chaiken, 1993), so that the expectation of potential bias acts as a brake on the persuasiveness of an expert.

When a decision maker accepts a persuasive message simply by attending to cues like the prestigious credentials or use of complicated language by the source of the message, avoiding the harder work of processing the content of the message itself, the decision maker is engaging solely in *peripheral* processing and failing to *centrally* process the expert testimony that would be entailed in an evaluation of the evidence (Petty & Cacioppo, 1986). Although jurors may be influenced by credentials, which indeed the jury instructions often tell them to use in evaluating the credibility of experts, there is little evidence to suggest that jurors adopt the position of an expert based solely on peripheral cues. Jurors who were permitted to submit questions for witnesses during trial in the Arizona Jury Project submitted a disproportionate number of their questions for experts (Diamond et al., 2006). Jurors submitted questions for almost half (47.5 percent) of the expert witnesses, an average of 2.11 per witness. Few (5.8 percent) of the questions concerned credentials or experience. Instead, questions generally reflected attempts to understand and evaluate the content of the testimony (e.g., "What were other potential causes for the . . . damage that you observed and why were they less plausible causes for [the plaintiff's injury] than the cause you have ascertained?" and "Not knowing how he was sitting, or his weight, how can you be sure he hit his shoulder?").

Although jurors typically work hard to understand the content of expert testimony, motivation is not enough to ensure success. Jurors often express concern about their ability to handle complex evidence (for a review, see Hans, 2007–08, p. 23–4). Probabilistic evidence is particularly challenging, for both juries and judges (Hans, 2007–08). Although jurors are sometimes confused by expert testimony (Selvin & Picus, 1987; Sanders, 1993), they generally use reasonable strategies to evaluate expert testimony (Lempert, 1993; Vidmar & Diamond, 2001) and draw on the expertise of their most competent member to assess the strength of the evidence (Diamond & Casper, 1992).

Jurors are instructed to base their verdicts on the evidence and legal instructions, a directive which presents a challenge if the jurors do not understand the evidence. In theory their ability to fully process the evidence may be reduced if the expert uses only *ipse dixit* to persuade the jurors without attempting to educate them about the content

of complicated material (e.g., by using language that is too difficult for jurors to comprehend). When faced with difficult technical testimony that is unintelligible, the juror has three alternatives: accept the expert's testimony on faith, reject it, or turn to other cues that might signal the expertise or the trustworthiness of the source. There is some evidence that jargon can act as a cue that promotes expert influence, but only when the jurors are able to obtain a reasonable grasp of the content of the expert's testimony (Cooper, Bennett & Sukel, 1996). In contrast, when an expert's testimony seems incomprehensible, the more likely result is that the jurors will ignore or explicitly reject that testimony (Diamond & Casper, 1992). This mediating effect of comprehension on influence is consistent with models of attitude change that emphasize reception as a foundation for influence when the audience is highly motivated to process the message (that is, a message must be received if it is to be influential) (McGuire, 1972). Thus, because neither the average juror nor the typical judge is likely to be trained as a scientist, complicated expert testimony presents a challenge for both juries and judges. An expert is most persuasive when the expert is an effective teacher.

D. Corporations

A common view in the business community is that juries are anti-business, prone to see corporations as "deep pockets" and over-eager to find in favor of injured plaintiffs when the defendant is a corporation (Huber, 1988; Lande, 1998). Research suggests that this image is misleading. Archival studies comparing jury verdicts in cases with corporate and individual defendants have shown more plaintiff verdicts and higher awards against business defendants, even after attempts to control for seriousness of injury and other case characteristics (e.g., Ostrom, Rottman, & Goerdt, 1996). These studies are limited, however, because unmeasured differences between the cases juries decide involving corporate and individual defendants (e.g., initial claim differences, pretrial strategies, and settlement patterns) may be responsible for the observed differences (Saks, 1992). Nonetheless, experimental studies also show that jurors are more likely to find in favor of plaintiffs when the defendant is a corporation. Yet, contrary to the popular image, this pattern does not appear to be due to anti-business sentiment. Nor does a deep-pockets mentality appear to guide jury decisions. Instead, the greater willingness to hold corporations responsible for the damages they cause appears to arise because jurors see corporations as having greater knowledge and expertise than individuals, and as a result they expect that a corporation will be better able to avoid potential harm.

Experimental studies provide a controlled test in which it is possible to hold all case features constant other than whether the defendant is a corporation or an individual, and to vary the wealth of the defendant independently of corporate status. Together with survey research on attitudes toward corporations and post-trial interviews with real jurors, these experimental tests of the "deep pockets" hypothesis suggest that juries do view corporations differently than they view individuals, but not because of the typically greater wealth of a corporation. Jurors find corporations liable more often than they find individuals liable because they expect more of the reasonable corporation than of the reasonable individual. Thus, experiments indicate that when corporate actors and individuals engage in the same behavior, the corporate defendant that is held to a higher standard is more likely to be held liable than the individual (Hans & Ermann, 1989; MacCoun, 1996).

For example, MacCoun conducted a jury simulation study in which the defendant was a poor individual, a wealthy individual, or a corporation. In general, awards against the corporate defendant were significantly greater than those against the wealthy individual with identical assets. In contrast, variations in the defendant's wealth had no effect on liability verdicts or compensatory damages.³ Other experiments that also showed effects for corporate status found no effects for variations in wealth on liability or compensatory damages. Although juries' higher "reasonable corporation" standard may reflect a view of corporate competence and control that is exaggerated in view of what we know about organizational behavior (Peterson et al., 1998), jury decisions cannot be described simply as a Robin Hood approach to wealth redistribution (Hans, 2000).

Nor does the pattern of holding corporations to a higher standard appear to be unique to American jurors. Sanders, Hamilton and Yuassa (1994) embedded tort scenarios in public opinion surveys conducted in the United States and Japan. In both countries, participants reacted differently to corporate and individual negligence that resulted in injury, finding that a corporate employer was better able to foresee and avoid the injury than an individual employer. When the behavior was reckless, the corporate and individual employers were treated as equally responsible in both countries.

At least one study compared juries' verdicts with judges' assessments of the evidence in cases that included a business defendant versus an individual defendant (Hans, 1998). In 125 jury trials involving business or individual defendants, judges evaluated whether the evidence favored the plaintiff. The judges were in substantial agreement with the jury, regardless of whether the defendant was an individual or a business. In cases in which the judge rated the evidence as favorable to the plaintiff, juries in 81 percent of the cases with an individual defendant and in 88 percent of those with a business defendant found in favor of the plaintiff. In cases in which the judge evaluated the case as favoring the defendant, the juries also found for the defendant business in 69 percent of cases and for the individual in 60 percent of cases. This suggests that any tendency to hold businesses to a higher standard may not be unique to juries, but may also be found in judges. It is not only worth attempting to replicate these results before concluding that judges and juries do in fact respond similarly to corporate defendants on liability, but also worth exploring potential differences in the damage amounts they award.

E. Separating Decisions on Liability and Damages

Liability and the amount of damages are legally independent judgments. In the typical negligence case, once the plaintiff has shown that the defendant's negligent behavior caused some injury to the plaintiff, the jury's determination of compensatory damages should rest exclusively on the injury caused by the defendant. Thus, the compensation level should not be influenced by the defendant's motivation for his negligent behavior or by his degree of carelessness. Similarly, the severity of the plaintiff's injury legally should not affect the decision maker's assessment of the defendant's negligence. When spill-over

³ Note that the Sunstein et al. (2002) finding that wealthier corporations are assessed more in punitive damages than are less wealthy corporations is consistent with the law's directive to consider a defendant's wealth in assessing punitive damages.

occurs between judgments about liability and amount of compensatory damages, it is sometimes referred to as the fusion of liability and damages.

Although some studies have found that jurors do consider defendant responsibility in calculating compensatory damages (e.g., Hammitt, Carroll & Relles, 1985), others have not (e.g., Cather, Greene & Durham, 1996). One possible explanation for the difference is that jurors who are given facts that suggest responsibility greater than negligence, but are not provided with an opportunity to award punitive damages, may add a punitive surcharge to their compensatory damage awards. Another possibility is that jurors discount damages when evidence about the defendant's behavior makes them less certain about liability. In a study that manipulated defendant carelessness, Wissler, Rector, and Saks (2001) found that an instruction not to discount awards for uncertainty about the defendant's fault was more effective than an instruction not to increase awards to punish for the defendant's carelessness. This suggests discounting as a process more resistant to correction than surcharging. Thus, what is called "fusion" may actually be a strategy for filling in ambiguities and uncertainties in evidence.

Fusion from injury to liability is the more familiar version of spill-over between liability and damages. Presented with an injured plaintiff, jurors naturally search for a cause of that injury and the defendant is a plausible candidate. Psychological research has identified a powerful heuristic, the hindsight bias, which leads all decision makers to use outcomes to judge the prior probability of an event. For example, the dangerousness of a defendant's behavior may be judged as greater (equating to negligence or carelessness) and more foreseeable if the decision maker knows that it has led to a negative outcome (e.g., Greene, Johns & Bowman, 1999; Kamin & Rachlinski, 1995). Recognition of the hindsight bias may in part account for Federal Rule of Evidence 407, which suppresses evidence of subsequent remedial measures in accident cases, recognizing that the fact finder is likely to give the information more weight than is appropriate (Rachlinski, 2000).

It appears that jurors are not alone. Danzon (1985) found that, according to expert decision makers' evaluations, the more seriously injured the patient, the more likely the health care providers were judged to be negligent. Experimental research on judges has also found evidence of the hindsight bias on predictions about outcomes, such as how an appellate court would rule (Guthrie, Rachlinski & Wistrich, 2001).

F. Assessment of Compensatory Damages

Juries are frequently criticized as unpredictable and overgenerous in their damage awards (Hans & Eisenberg, 2011). The evidence of unpredictability is ambiguous. The impact of relevant legal factors on the compensatory damages that juries award is well documented, accounting for more than half of the large variation in awards with a small number of predictor variables (e.g., Baldus, MacQueen, & Woodworth, 1995; Sloan & Hsieh, 1990). The strongest predictor of awards is typically the legally relevant severity of injury as measured on an 8- or 9-point scale. Nonetheless, with substantial variation unaccounted for, the crucial question is how much of the unexplained variation is due to legally relevant factors that are either unmeasured or poorly measured versus due to error or bias. For example, a 9-point unidimensional severity scale compresses injuries that differ on multiple dimensions. Burns, drug side effects and brain damage all are scored at Level 4 on the National Association of Insurance Commissioners' Severity of Injury Scale (Wissler et

al., 1999). Thus, severity of injury may even be substantially more important than it has appeared in studies using a relatively crude measure to capture it.

Even if we have no reliable estimate of just how much of the unexplained variance is due to legally relevant factors, no doubt some portion of it can be explained by the lack of standards provided by the legal system on damages, particularly general damages. With no market for harms like those from physical pain, mental suffering, disability, disfigurement, and loss of enjoyment of life, the law provides little guidance in setting the value for these general damages, providing the jury (or judge) only with advice to arrive at an amount that “a reasonable person would estimate as fair compensation” (American Law Institute, 1979). Jurors complain about the lack of guidance (Mott, Hans & Simpson, 2000), and mock jurors show substantial variation in the damages they award for pain and suffering in response to identical case facts (e.g., Saks et al., 1997). The variability of awards drops when the mock jurors deliberate, so that jury awards show substantially less variation than individual mock juror awards, but it remains higher for pain and suffering than for economic damages (Diamond, Saks & Landsman, 1998), consistent with the greater difficulty of that task.

Is there evidence that juries are overgenerous in their compensatory damage awards? Even if juries are not pro-plaintiff on the question of liability, a more mixed picture emerges for damage awards. Although some researchers have found no difference in average awards of jurors and legal professionals (Vidmar & Rice, 1993), others have found that jurors tend to make somewhat higher awards. For example, Kalven and Zeisel (1966) found that judges agreed with the jury on liability 78 percent of the time, and among cases in which they disagreed, the jury found for the plaintiff half the time. When the judge and jury agreed on liability, however, juries on average awarded 20 percent more than the judges reported that they would have awarded. Similarly, in a large-scale survey of jury-eligible citizens, attorneys, and judges involving case summaries, the jury-eligible respondents in Illinois on average gave higher awards for pain and suffering than did the Illinois judges, while in New York, the award levels did not differ (Wissler, Hart & Saks, 1999). In both Illinois and New York, the jurors’ average awards were between those of the plaintiffs’ attorneys and those of the defense attorneys. In both jurisdictions, injuries that were given larger awards by one group also tended to receive larger awards from the other groups.

The few studies that compare the decision making processes of laypersons and judges suggest that they rely on similar injury attributes and use them in similar ways in reaching judgments about injury severity (Robbennolt, 2002; Howe & Loftus, 1992). Given the absence of a clear standard for the appropriate damage level, particularly for general damages, it is unclear whether higher awards by the jurors constitute overcompensation, or lower awards by judges constitute undercompensation.

G. Decisions on Punitive Damages

Perhaps no aspect of the civil jury trial has attracted more public attention than that rare event, the trial resulting in a large punitive damages award. The scholars who have examined punitive damages have engaged in important debates on their patterns and the meaning of those patterns. For example, Ted Eisenberg and his colleagues have characterized the overall pattern in jury punitive damage awards as largely reasonable

(e.g., Eisenberg et al., 2006). In contrast, Kip Viscusi and his colleagues view jury awards for punitive damages as unpredictable and economically questionable (e.g., Hersch & Viscusi, 2004). Cass Sunstein and his colleagues (Sunstein et al., 2002), using somewhat minimalist case materials in vignette experiments, found that, although their mock jurors showed substantial consensus on scales measuring how much they thought the defendant should be punished, their dollar awards varied dramatically.⁴ The implications of their results have been the subject of vigorous debate (e.g., Feigenson, 2003; Vidmar, 2004). Even the U.S. Supreme Court entered the fray, offering an opinion, purportedly based on empirical findings, on the appropriate ratio between punitive and compensatory damages (*Exxon Shipping Co. v. Baker*, 2008) and drawing immediate praise and criticism for its treatment of the empirical evidence (e.g., Eisenberg, Heise & Wells, 2010). An additional chapter would be required to do justice to the evidence on punitive damages.

Although the prospect of a possible punitive damages award may affect settlement behavior, it is worth noting that punitive damages occupy only a tiny portion of the jury's portfolio in tort cases. In state jury trials during 2005, punitive damages were sought far more often in contract cases (28 percent) than in tort cases (10 percent) (Cohen & Harbacek, 2011: 6, Table 10). Moreover, juries who found for the plaintiff in tort cases awarded punitive damages in only 3 percent of those cases. Since juries found in favor of plaintiffs in 51 percent of their tort cases, this means that punitive damages were awarded in less than 2 percent of all tort jury verdicts. Moreover, when punitive damages were awarded, the median award was \$55,000, with only 17 percent of all punitive damage awards, that is one-third of 1 percent of all jury verdicts in tort cases, producing punitive damage verdicts of \$1 million or more. The scholarly and media focus on generous punitive damage awards, at least in tort cases, appears to far exceed jury enthusiasm for making those awards.

H. Comprehension and Application of the Law

The standard story of jury instructions assumes that jurors ignore or are simply baffled by the legalese and complex doctrine. Indeed, there is much to support this view. Study after study has demonstrated that jurors do not perform well on comprehension tests designed to show what messages the instructions conveyed (e.g., comprehension rates

⁴ In the single Sunstein et al. experiment (2002) in which the mock jurors deliberated on punitive damages, the participants received a brief case description and were told that compensatory damages of \$200,000 had been awarded against the defendant corporation. They were then given 30 minutes to decide on whether to award punitive damages, and if so, how much to award. The deliberating juries showed substantial variation in awards and a severity shift that produced a median award for juries that was higher than the median award preferences within juries before deliberations. The authors present evidence from a second study showing that law students thought it was easier to generate arguments for a high punitive damage award than a lower award. Such arguments may indeed have occurred in those mock jury deliberations that showed a severity shift. Unfortunately, no analysis of the deliberations was apparently conducted. Furthermore, the researchers simply dropped from all of their analyses the 108 out of 509 original juries that failed to reach agreement in the allotted 30 minutes. Thus, a selection bias may in part explain the severity shift. It is hard to be confident about generalizing from these results.

below 65 percent, Lieberman & Sales, 2000). A few mock jury experiments, conducted primarily on criminal cases, that have compared post-trial comprehension performance of deliberating jurors and non-deliberating jurors have shown modest improvements with deliberation (e.g., Elwork, Alfini & Sales, 1982 [civil]; Severance, Greene & Loftus, 1984 [criminal]), but others have not (e.g., Ellsworth, 1989 [criminal]); Hastie, Schkade & Payne, 1998 [punitive damages]. Even after deliberation, jurors in these experiments typically do not perform well on these comprehension tests. Nor have real jurors in post-trial surveys performed well (e.g., Saxton, 1998). It is unclear on the basis of this research how much of the poor performance is due to poorly drafted instructions, to the measures used to assess juror comprehension, or to more fundamental problems, but some courts have recently taken steps to produce clearer pattern jury instructions (Tiersma, 2006).

Against this background, the deliberations of the jurors in the tort cases of the Arizona Jury Project tell a more complex story (Diamond et al., 2012). The deliberations revealed that, at least in these ordinary tort cases, most juries arrived at a reasonable understanding of the relevant law during their deliberations. A majority of the comments about legal issues (79 percent) were consistent with the law and almost half of the juror comprehension errors on the law that jurors made (47 percent) were explicitly corrected. Nonetheless, errors occurred that appeared to affect several awards. Analysis of the errors jurors made during deliberations revealed a need to address issues in addition to legal jargon, specifically, omissions that leave jurors without guidance on some legal issues and structural problems that arise because the piecemeal construction of jury instructions may leave jurors confused about how the pieces fit together. We do not know how these jurors would have performed on post-trial comprehension tests, but their conversations during deliberations indicate better performance as a group than post-trial tests may capture, albeit with clear room for improvement.

4. OBSTACLES AND WAYS TO PROMOTE OPTIMAL JURY TRIALS

The obstacles to optimal jury performance depend in part on what optimal performance is. If jurors are expected to be risk managers (i.e., expected to optimize the allocation of costs and benefits), it is not clear how well they can manage this task. It *is* clear that we do not instruct them to try to do so in the standard negligence case. If we want them to perform superhuman feats that legally trained professionals also do not do well (e.g., avoiding the misleading lure from exposure to inadmissible evidence), we are likely to be only partially successful in achieving that goal. Nonetheless, the evidence on current jury decision making in tort cases suggests that juries as a rule cope quite well with the conflicting evidence they are asked to judge. Moreover, adopting procedures for jury trials that recognize how juries decide cases offers an opportunity to enhance that performance. Many of these procedures would not be costly to implement. Some of these procedures are already in operation in some jurisdictions. Others are rarely used. One calls for radical changes that have not yet been implemented.

Here we briefly describe some of these reforms/possibilities:

- 1) Restoring the 12-member civil jury: The likelihood of an outlier award is reduced

with a larger jury (see, e.g., Saks, 1996). Yet many states and the federal system permit juries of as few as six in civil trials.

2) Pretrial instructions on the law: Pre-instruction frames the key legal issues the jury will have to address, potentially correcting initial misconceptions about the task. Yet jurors generally receive little information on the law before the end of the trial. They typically must wait until they have heard all of the evidence before the judge provides any instruction on the elements that the plaintiff must prove. Thus, the jury may listen to the evidence assuming that the task will be whether or not to hold the defendant responsible for the plaintiff's injuries, learning only just before deliberations that it is a comparable fault case in which fault can be allocated between the opposing parties.

3) Interim statements: In presenting the evidence in complex cases, some courts now permit the attorneys to give interim statements that provide jurors with a clearer roadmap than is provided by the succession of witnesses whose order of presentation may not follow the chronological sequence of events that led to the trial. These interim statements can assist the jurors in drawing connections between seemingly unrelated pieces of evidence.

4) Permitting juror discussions during breaks in the trial: Some evidence suggests that permitting juror discussions during trial breaks promotes juror understanding of complex expert testimony (Diamond et al., 2003). Little evidence was found that these discussions produced premature closure.

5) Permitting note taking: Some jurisdictions have only recently permitted jurors to take notes during trial; others still do not. In 2006, note taking was permitted in an estimated 69 percent of state trials and 71 percent of federal trials (National Center for State Courts [NCSC], 2006).

6) Allowing jurors to submit questions for witnesses during trial: An increasing number of judges permit jurors to submit written questions for witnesses, which are then vetted by the judge and attorneys to assure that the question is permitted under the rules of evidence. In 2006, juror questions during trial were permitted in an estimated 15 percent of state trials and 11 percent of federal trials (NCSC, 2006), but the trend toward permitting questions is growing (e.g., Illinois Rule 243, effective July 1, 2012; Diamond et al., 2006).

7) Giving each juror a written copy of the jury instructions: Some jurisdictions and some judges deliver their instructions only orally, but a growing number now provide the jury with a copy (NCSC, 2006: state trials = 69 percent; federal trials = 79 percent). Only a minority provide each juror with a copy (NCSC, 2006: state trials = 33 percent; federal trials = 39 percent).

8) Re-writing jury instructions: Clarifying language and reducing jargon are necessary, but not sufficient. Further steps addressing structural problems and omissions are required (Diamond et al., 2012). Further, providing jurors, where possible, with explanations for legal rules can reduce the likelihood that information will be used inappropriately (e.g., Diamond & Casper, 1992).

An additional, more radical change that is particularly suitable for tort trials would entail supplying the jury (or the judge) with information on the damages awarded in comparable cases. The challenge is to identify which cases are comparable. A number of scholars have suggested a variety of ways to do this, following the model of the sentencing guidelines in criminal cases (e.g., Avraham, 2006), but no agreement has emerged and the suggested methods have yet to be implemented.

5. CONCLUSION

This brief survey of jury behavior in tort trials has focused on the chief concerns frequently raised when the jury is charged with incompetence or bias. Although the jury emerges relatively unscathed, at least with the judge as a benchmark, some limitations are visible and many of them can be addressed. But that is not the entire story. All human decision makers are subject to judgment biases that can affect them in ways that distort judgments and that the law does not officially recognize as legitimate. For example, an omission bias leads people to judge action more harshly when action causes the harm than when inaction causes the same harm (Baron & Ritov, 1994). The omission bias may reflect ambivalence embedded in the law about what is appropriate (indeed, the law itself on some occasions denies responsibility for failure to prevent harms), but other biases like the hindsight bias discussed earlier (Part 3E.) may misdirect judgments in unambiguously indefensible directions. Moreover, efforts at debiasing have, to this point, been notably unsuccessful (Bazerman & Moore, 2008). Human decision makers, whether juries or judges, can only approximate optimal decision making within the constraints they are given, and that appears to be what they do.

REFERENCES

- American Judicature Society (2003), *Editorial: The Media and Jury Deliberations: Education or Invasion?* JUDICATURE, 87, 48, 88.
- American Law Institute (1979). *RESTATEMENT (SECOND) OF TORTS*. (St. Paul, MN: American Law Institute Publishers).
- Avraham, Ronan (2006), *Putting a Price on Pain-and-Suffering Damages*, NORTHWESTERN LAW REVIEW, 100, 87–120.
- Bailis, Daniel S., & Robert J. MacCoun (1996), *Estimating Liability Risks with the Media as Your Guide: A Content Analysis of Media Coverage of Tort Litigation*, LAW AND HUMAN BEHAVIOR, 20, 419–29.
- Baldus, David, John C. MacQueen, & George Woodworth (1995), *Improving Judicial Oversight of Jury Damages Assessments: A Proposal for the Comparative Additur/Remittitur Review of Awards for Nonpecuniary Harms and Punitive Damages*, IOWA LAW REVIEW, 80, 1109–268.
- Baron, Jonathan & Ilana Ritov (1993), *Intuitions about Penalties and Compensation in the Context of Tort Law*, JOURNAL OF RISK & UNCERTAINTY, 7, 17–33.
- Baron, Jonathan & Ilana Ritov (1994), *Reference Points and Omission Bias*, ORGANIZATIONAL BEHAVIOR & HUMAN DECISION PROCESSES, 59, 475–98.
- Bazerman, Max H. & Don A. Moore (2008), *JUDGMENT IN MANAGERIAL DECISION MAKING* (7th ed.) (Hoboken, N.J.: John Wiley & Sons, Inc.).
- Bennett, W. Lance & Martha Feldman (1981), *RECONSTRUCTING REALITY IN THE COURTROOM: JUSTICE AND JUDGMENT IN AMERICAN CULTURE* (New Brunswick, NJ: Rutgers University Press).
- Bornstein, Brian H. (1999), *The Ecological Validity of Jury Simulations: Is the Jury Still Out?* LAW & HUMAN BEHAVIOR, 23, 75–91.
- Calabresi, Guido, (1970), *THE COST OF ACCIDENTS* (New Haven, Conn.: Yale University Press).
- Cather, Corinne, Edith Greene & Robert Durham (1996), *Plaintiff Injury and Defendant Reprehensibility: Implications for Compensatory and Punitive Damage Awards*, LAW & HUMAN BEHAVIOR, 20, 189–205.
- Clermont, Kevin M. & Theodore Eisenberg (1992), *Trial by Jury or Judge: Transcending Empiricism*, CORNELL LAW REVIEW, 11, 1124–77.
- Cohen, Thomas H., (2009), *Tort Bench and Jury Trials in State Courts, 2005*, BUREAU OF JUSTICE STATISTICS BULLETIN, available at <http://bjs.ojp.usdoj.gov/content/pub/pdf/tbjtsc05.pdf>.
- Cohen, Thomas H. & Kyle Harbacek (2011), *Punitive Damages Awards in State Courts, 2005*, BUREAU OF JUSTICE STATISTICS BULLETIN, available at <http://www.bjs.gov/index.cfm?ty=pbdetail&iid=2376>.
- Cooper, Joel, Elizabeth A. Bennett & Holly L. Sukel (1996), *Complex Scientific Testimony: How Do Jurors Make Decisions?*, LAW AND HUMAN BEHAVIOR, 20, 379–94.

- Cosper, Christopher A. (2003), *Rehabilitation of the Juror Rehabilitation Doctrine*, *GEORGIA LAW REVIEW*, 37, 1471–1508.
- Daniels, Stephen & Joanne Martin (1995), *CIVIL JURIES AND THE POLITICS OF REFORM* (Evanston, Ill.: Northwestern University Press).
- Danzon, Patricia M. (1985), *MEDICAL MALPRACTICE: THEORY, EVIDENCE, AND PUBLIC POLICY* (Cambridge University Press).
- Daubert v. Merrell-Dow Pharm., Inc.*, 509 U.S. 579 (1993).
- Daubert v. Merrell-Dow Pharm., Inc.*, 43 F.3d 1311 (9th Cir. 1995), *cert. denied*, 116 S.Ct. 189 (1995).
- Diamond, Shari S. (2012), *Thoughts on Total Justice*, *QUINNIPIAC LAW REVIEW* (Tortolo Lectures 2011), 30, 467–79.
- Diamond, Shari S. (1997), *Illuminations and Shadows from Jury Simulations*, *LAW & HUMAN BEHAVIOR*, 21, 561–71.
- Diamond, Shari S. (2006), *Between Fantasy and Nightmare: A Portrait of the Jury*, *BUFFALO LAW REVIEW*, 54, 717–63.
- Diamond, Shari S., Michael J. Saks & Stephan Landsman (1998), *Juror Judgments about Liability and Damages: Sources of Variability and Ways to Increase Consistency*, *DEPAUL LAW REVIEW*, 48, 301–26.
- Diamond, Shari S. & Jonathan D. Casper (1992), *Blindfolding the Jury to Verdict Consequences: Damages, Experts, and the Civil Jury*, *LAW & SOCIETY REVIEW*, 26, 513–63.
- Diamond, Shari S., Beth Murphy & Mary R. Rose (2012), *The “Kettleful of Law” in Real Jury Deliberations: Successes, Failures and Next Steps*, *NORTHWESTERN UNIVERSITY LAW REVIEW*, 106, 1537–608.
- Diamond, Shari S., Neil Vidmar, Mary Rose Leslie Ellis & Beth Murphy (2003), *Jury Discussions During Civil Trials: Studying an Arizona Innovation*, *UNIVERSITY OF ARIZONA LAW REVIEW*, 45, 1–81.
- Diamond, Shari S., Mary R. Rose, Beth Murphy & Sven Smith (2006), *Juror Questions During Trial: A Window into Juror Thinking*, *VANDERBILT LAW REVIEW*, 59, 1927–72.
- Diamond, Shari S. & Neil Vidmar (2001), *Jury Room Ruminations on Forbidden Topics*, *VIRGINIA LAW REVIEW*, 87, 1857–915.
- Eagly, Alice H., & Shelly Chaiken (1993), *THE PSYCHOLOGY OF ATTITUDES* (Orlando, FL.: Harcourt Brace Jovanovich).
- Eisenberg, Theodore (2012), *The Empirical Effects of Tort Reform* (this volume).
- Eisenberg, Theodore, Jeffrey Rachlinski & Martin Wells (2002), *Reconciling Experimental Incoherence with Real-World Coherence in Punitive Damages*, *STANFORD LAW REVIEW*, 54, 1239–72.
- Eisenberg, Theodore, Paula L. Hannaford-Agor, Michael Heise, Neil LaFountain, G. Thomas Munsterman, Brian Ostrom & Martin T. Wells (2006), *Juries, Judges, and Punitive Damages: Empirical Analyses Using the Civil Justice Survey of State Courts 1992, 1996, and 2001 Data*, *JOURNAL OF EMPIRICAL LEGAL STUDIES*, 3, 263–95.
- Eisenberg, Theodore, Michael Heise & Martin T. Wells (2010), *Variability in Punitive Damages: An Empirical Assessment of the U.S. Supreme Court’s Decision in Exxon Shipping Co. v. Baker*, *JOURNAL OF INSTITUTIONAL & THEORETICAL ECONOMICS*, 166, 5–26.
- Elwork, Amiram, James J. Alfani, & Bruce Sales (1982), *Toward Understandable Jury Instructions*, *JUDICATURE*, 65, 432–43.
- Ellsworth, Phoebe C. (1989), *Are Twelve Heads Better than One?*, *LAW & CONTEMPORARY PROBLEMS*, 52, 207–24.
- Exxon Shipping Co. v. Baker*, (2008), 128 S.Ct. 2605.
- Feigenson, Neal (2000), *LEGAL BLAME: HOW JURORS THINK AND TALK ABOUT ACCIDENTS* (Washington, D.C.: American Psychological Association).
- Feigenson, Neal (2003), *Can Tort Juries Punish Competently?*, *CHICAGO-KENT LAW REVIEW*, 73, 239–89.
- Galen, Michele et al., (1992), *The Verdict from the Corner Office*, *BUSINESS WEEK*, Apr. 13, 1992, at 66.
- Goerd, John A., Brian J. Ostrom & David B. Rothman (1995), *Litigation Dimensions: Torts and Contracts in Large Urban Courts*, *STATE COURT JOURNAL*, 19, 5–51.
- Greene, Edie & Brian H. Bornstein (2003), *DETERMINING DAMAGES: THE PSYCHOLOGY OF JURY AWARDS* (Washington, D.C.: American Psychological Association).
- Greene, Edith, Michael Johns & Jason Bowman (1999), *The Effects of Injury Severity on Jury Negligence Decisions*, *LAW & HUMAN BEHAVIOR*, 23, 675–93.
- Gross, Samuel R. (1991), *Expert Evidence*, *WISCONSIN LAW REVIEW*, 1991, 1113–1232.
- Guinther, John (1988), *THE JURY IN AMERICA* (New York: Facts on File Publications).
- Guthrie, Chris, Jeffrey J. Rachlinski & Andrew J. Wistrich (2001), *Inside the Judicial Mind*, *CORNELL LAW REVIEW*, 86, 777–830.
- Hammit, James K., Stephen J. Carroll & Daniel A. Relles (1985), *Tort Standards and Jury Decisions*, *JOURNAL OF LEGAL STUDIES*, 14, 751–62.
- Hannaford, Paula L., Valerie P. Hans & G. Thomas Munsterman (2000), *Permitting Jury Discussions During Trial: Impact of the Arizona Reform*, *LAW & HUMAN BEHAVIOR*, 24, 359–82.
- Hans, Valerie P. (2007–08), *Judges, Juries, and Scientific Evidence*, *JOURNAL OF LAW & POLICY*, 16, 19–46.

- Hans, Valerie P. (2000), *BUSINESS ON TRIAL: THE CIVIL JURY AND CORPORATE RESPONSIBILITY* (New Haven, Conn.: Yale University Press).
- Hans, Valerie P. (1998), *The Illusions and Realities of Jurors' Treatment of Corporate Defendants*, *DEPAUL LAW REVIEW*, 48, 327–53.
- Hans, Valerie P. & Juliet Dee (2003), *Whiplash: Who's to Blame?*, *BROOKLYN LAW REVIEW*, 68, 1093–1120.
- Hans, Valerie P. & Theodore Eisenberg (2011), *The Predictability of Juries*, *DEPAUL LAW REVIEW*, 60, 376–96.
- Hans, Valerie P. & M. David Ermann (1989), *Responses to Corporate versus Individual Wrongdoing*, *LAW & HUMAN BEHAVIOR*, 13, 151–66.
- Hastie, Reid (1993), *INSIDE THE JUROR: THE PSYCHOLOGY OF JUROR DECISION MAKING* (Cambridge University Press).
- Hastie, Reid, David A. Schkade & John W. Payne (1998), *A Study of Juror and Jury Judgments in Civil Cases: Deciding Liability for Punitive Damages*, *LAW & HUMAN BEHAVIOR*, 22, 287–314.
- Hersch, Joni & W. Kip Viscusi (2004), *Punitive Damages: How Judges and Juries Perform*, *JOURNAL OF LEGAL STUDIES*, 33, 1–36.
- Heuer, Larry & Steven Penrod (1994), *Trial Complexity: A Field Investigation of its Meaning and Effects*, *LAW & HUMAN BEHAVIOR*, 18, 29–52.
- Howe, Edmond S. & Thomas C. Loftus (2002), *Integration of Intention and Outcome Information by Students and Circuit Judges: Design Economy and Individual Differences*, *JOURNAL OF APPLIED SOCIAL PSYCHOLOGY*, 22, 102–16.
- Huber, Peter W. (1988), *LIABILITY: THE LEGAL REVOLUTION AND ITS CONSEQUENCES* (New York: Basic Books).
- Ivkovich, Sanja & Valerie Hans (1994), *Jurors and Experts*, *ADVOCATE: THE MAGAZINE FOR DELAWARE TRIAL LAWYERS*, 16, 17–21.
- Kalven, Harry, Jr. (1964), *The Dignity of the Civil Jury*, *VIRGINIA LAW REVIEW*, 50, 1055–75.
- Kalven, Harry, Jr. & Hans Zeisel (1966), *THE AMERICAN JURY* (Boston: Little, Brown).
- Kamin, Kim A. & Jeffrey J. Rachlinski (1995), *Ex post ≠ Ex ante: Determining Liability in Hindsight*, *LAW & HUMAN BEHAVIOR*, 19, 89–104.
- Katz, Jay (1972), *EXPERIMENTATION WITH HUMAN BEINGS* (New York: Russell Sage Foundation).
- Lande, John (1998), *Failing Faith in Litigation? A Survey of Business Lawyers' and Executives' Opinions*, *HARVARD NEGOTIATION LAW REVIEW*, 3, 1–70.
- Landes, William M. & Richard A. Posner (1987), *THE ECONOMIC STRUCTURE OF TORT LAW* (Cambridge, Mass.: Harvard University Press).
- Landsman, Stephan & Richard F. Rakos (1994), *A Preliminary Inquiry into the Effect of Potentially Biasing Information on Judge and Jurors in Civil Litigation*, *BEHAVIORAL SCIENCES & LAW*, 12, 113–26.
- Lee, Cynthia G., & Nicole L. Waters (2011), *A Verdict on the Reporters: The Representativeness and Accuracy of Commercially Published Jury Verdict Reports*, paper presented at the Conference on Empirical Legal Studies, Nov. 2011.
- Lempert, Richard O. (1993), *Civil Juries and Complex Cases: Taking Stock After Twelve Years*, in Robert E. Litan ed., *VERDICT: ASSESSING THE CIVIL JURY SYSTEM 181* (Washington, D.C.: Brookings Institution).
- Lieberman, Joel D. & Bruce D. Sales (2000), *Jury Instructions: Past, Present, and Future*, *PSYCHOLOGY, PUBLIC POLICY, AND LAW*, 6, 587–90.
- Lieberman, Joel D. & Bruce D. Sales (1997), *What Social Science Teaches Us About the Jury Instructions Process*, *PSYCHOLOGY, PUBLIC POLICY, & LAW*, 3, 589–644.
- MacCoun, Robert J. (1996), *Differential Treatment of Corporate Defendants by Juries: An Examination of the "Deep-Pockets" Hypothesis*, *LAW & SOCIETY REVIEW*, 30, 121–61.
- Manzo, John F. (1996), *Taking Turns and Taking Sides: Opening Scenes From Two Jury Deliberations*, *SOCIAL PSYCHOLOGY QUARTERLY*, 59, 107–125.
- Maynard, Douglas W., & John F. Manzo (1993), *On the Sociology of Justice: Theoretical Notes From an Actual Jury Deliberation*, *SOCIOLOGICAL THEORY*, 11, 171–193.
- McGuire, William J. (1972), *Attitude Change: The Information-Processing Paradigm*, in Charles Graham McClintock ed., *EXPERIMENTAL SOCIAL PSYCHOLOGY 108* (New York: Holt, Rinehart, & Winston).
- Merritt, Deborah Jones & Kathryn Ann Barry (1999), *Is the Tort System in Crisis? New Empirical Evidence*, *OHIO STATE LAW JOURNAL*, 60, 315–98.
- Mott, Nicole L., Valerie P. Hans & Lindsay Simpson (2000), *What's Half a Lung Worth? Civil Jurors' Accounts of Their Award Decision Making*, *LAW & HUMAN BEHAVIOR*, 24, 401–19.
- Nadler, Janice (2012) *Blaming as a Social Process: The Influence of Character and Moral Emotion on Blame*, *LAW AND CONTEMPORARY PROBLEMS*, 75, 1–31.
- National Center for State Courts [NCSC] (2006), *THE STATE-OF-THE-STATES SURVEY OF JURY IMPROVEMENT EFFORTS*, http://www.ncsconline.org/D_Research/cjs/pdf/sos_exec_sum.pdf (last accessed March 13, 2012).
- Ostrom, Brian J., David B. Rottman & John A. Goerdt (1996), *Step Above Anecdote: A Profile of the Civil Jury in the 1990s*, *JUDICATURE*, 79, 233–41.

- Pennington, Nancy & Reid Hastie (1991), *A Cognitive Theory of Juror Decision Making: The Story Model*, *CARDOZO LAW REVIEW*, 13, 519–51.
- Peterson, Randall S., Pamela D. Owens, Philip E. Tetlock, Elliott T. Fan, & Paul Martorana (1998), *Group Dynamics in Top Management Teams, Groupthink, Vigilance, and Alternative Models of Organizational Failure and Success*, *ORGANIZATIONAL BEHAVIOR AND HUMAN DECISION PROCESSES*, 73, 77–99.
- Petty, Richard E. & John T. Cacioppo (1986), *The Elaboration Likelihood Model of Persuasion*, in L. Berkowitz ed., *ADVANCES IN EXPERIMENTAL SOCIAL PSYCHOLOGY*, 19, 123–205 (New York: Academic Press).
- Rachlinski, Jeffrey J. (2000), *Heuristics and Biases in the Courts: Ignorance or Adaptation?*, *OREGON LAW REVIEW*, 79, 62–102.
- Robbenolt, Jennifer K. (2005), *Jury Decisionmaking: Evaluating Juries by Comparison to Judges: A Benchmark for Judging?*, *FLORIDA STATE UNIVERSITY LAW REVIEW*, 32, 469–509.
- Robbenolt, Jennifer K. (2002), *Punitive Damage Decision Making: The Decisions of Citizens and Trial Court Judges*, *LAW & HUMAN BEHAVIOR*, 26, 315–41.
- Rose, Mary (2005), *A Dutiful Voice: Justice in the Distribution of Jury Service*, *LAW & SOCIETY REVIEW*, 39, 601–34.
- Rose, Mary & Shari S. Diamond (2008), *Judging Bias: Juror Confidence and Judicial Rulings on Challenges for Cause*, *LAW & SOCIETY REVIEW*, 42, 513–49.
- Rose, Mary, Shari S. Diamond, & Kim M. Butler (2010), *Goffman on the Jury: Real Jurors' Attention to the "Offstage" of Trials*, *LAW AND HUMAN BEHAVIOR*, 34, 310–23.
- Saks, Michael J. (1996), *The Smaller the Jury the Greater the Unpredictability*, *JUDICATURE*, 79, 263–65.
- Saks, Michael J. (1992), *Do We Really Know Anything About the Behavior of the Tort Litigation System—and Why Not?* *UNIVERSITY OF PENNSYLVANIA LAW REVIEW*, 140, 1147–292.
- Saks, Michael J., Lisa A. Hollinger, Roselle Wissler, David Evans, & Allen J. Hart (1997), *Reducing variability in civil jury awards*. *LAW AND HUMAN BEHAVIOR*, 21, 243–56.
- Sanders, Joseph (1993), *The Jury Deliberation in a Complex Case: Havner v. Merrell Dow Pharmaceuticals*, *JUSTICE SYSTEM JOURNAL*, 16, 45–67.
- Sanders, Joseph, V. Lee Hamilton, & Toshiyuki Yuassa (1994), *Corporate Actor Responsibility in Three Societies*, Paper presented at the annual meeting of the Law & Society Association, Phoenix.
- Saxton, Bradley (1998), *How Well do Jurors Understand Jury Instructions? A Field Test Using Real Juries and Real Trials in Wyoming*, 33 *LAND & WATER LAW REVIEW*, 33, 59–189.
- Seabury, Seth A., Nicholas M. Pace, & Robert T. Reville (2004), *Forty Years of Civil Jury Verdicts*, *JOURNAL OF EMPIRICAL LEGAL STUDIES*, 1, 1–25.
- Selvin, Molly & Larry Picus (1987), *The Debate over Jury Performance* (Santa Monica, Cal.: RAND Corporation).
- Severance, Lawrence J. & Elizabeth F. Loftus (1982), *Improving the Ability of Jurors to Comprehend and Apply Criminal Jury Instructions*, *LAW & SOCIETY REVIEW*, 17, 153–98.
- Severance, Lawrence J., Edie Greene & Elizabeth F. Loftus (1984), *Toward Criminal Jury Instructions that Jurors can Understand*, *JOURNAL OF CRIMINAL LAW & CRIMINOLOGY*, 75, 198–233.
- Shadish, William R., Thomas D. Cook, & Donald T. Campbell (2001), *EXPERIMENTAL AND QUASI-EXPERIMENTAL DESIGNS FOR GENERALIZED CAUSAL INFERENCE* (Boston, MA: Houghton-Mifflin).
- Shuman, Daniel W., Elizabeth Whitaker & Anthony Champagne (1994), *An Empirical Examination of the Use of Expert Witnesses in the Court—Part II: A Three City Study*, *JURIMETRICS JOURNAL*, 34, 193–308.
- Simon, Dan (2004) *A Third View of the Black Box: Cognitive Coherence in Legal Decision Making*, *UNIVERSITY OF CHICAGO LAW REVIEW*, 71, 511–586.
- Sloan, Frank A. & Chee Ruey Hsieh (1990), *Variability in Medical Malpractice Payments: Is the Compensation Fair?*, *LAW & SOCIETY REVIEW*, 24, 997–1039.
- Studdert, David M., Michelle M. Mello, Atul A. Gawande, Tejal K. Gandhi, Allen Kachalia, Catherine Yoon, Ann Louise Puopolo, & Troyen A. Brennan (2006), *Claims, Errors, and Compensation Payments in Medical Malpractice Litigation*, *NEW ENGLAND JOURNAL OF MEDICINE*, 354, 2024–33.
- Sunstein, Cass R., Reid Hastie, John W. Payne, David A. Schkade, & W. Kip Viscusi (2002), *PUNITIVE DAMAGES* (Chicago, IL: University of Chicago Press).
- Sunstein, Cass R., David Schkade & Daniel Kahneman (2000), *Do People Want Optimal Deterrence?*, *JOURNAL OF LEGAL STUDIES*, 29, 237–53.
- Supreme Court of Illinois, Rule 243 (2012), New Rule will Allow Jurors to Submit Questions to Witnesses in Civil Trials, <http://www.state.il.us/court/media/PressRel/2012/040312.pdf>.
- Taylor, Ralph B., Jerry H. Ratcliffe, Lillian Dote, & Brian A. Lawton (2007), *Roles of Neighborhood Race and Status in the Middle Stages of Juror Selection*, *JOURNAL OF CRIMINAL JUSTICE*, 35, 391–403.
- Tiersma, Peter (2006), *Communicating with Juries: How to Draft More Understandable Jury Instructions*, *NATIONAL CENTER FOR STATE COURTS* (originally published in *SCRIBES JOURNAL OF LEGAL WRITING*, 10, 1 (2005–2006)).
- Vidmar, Neil & Jeffrey J. Rice (1993), *Assessments of Noneconomic Damage Awards in Medical Negligence: A Comparison of Jurors with Legal Professionals*, *IOWA LAW REVIEW*, 78, 883–911.

- Vidmar, Neil (1995), *MEDICAL MALPRACTICE AND THE AMERICAN JURY* (Ann Arbor, Mich.: University of Michigan Press).
- Vidmar, Neil (2004), *Experimental Simulations and Tort Reform: Avoidance, Error and Overreaching in Sunstein et al.'s 'Punitive Damages'*, *EMORY LAW JOURNAL*, 53, 1359–403.
- Vidmar, Neil & S.S. Diamond (2001), *Juries and Expert Evidence*, *BROOKLYN LAW REVIEW*, 66, 1121–80.
- Wissler, Roselle L., Katie A. Rector, & Michael J. Saks (2001), *The Impact of Jury Instructions on the Fusion of Liability and Compensatory Damages*, *LAW & HUMAN BEHAVIOR*, 25, 125–39.
- Wissler, Roselle L., Allen J. Hart & Michael J. Saks (1999), *Decisionmaking About General Damages: A Comparison of Jurors, Judges, and Lawyers*, *MICHIGAN LAW REVIEW*, 98, 751–826.

