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Winter 1999

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### Recommended Citation

Philip G. Peters Jr., *Hindsight Bias and Tort Liability: Avoiding Premature Conclusions*, 31 *Ariz. St. L.J.* 1277 (1999)

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# HINDSIGHT BIAS AND TORT LIABILITY: Avoiding Premature Conclusions

Philip G. Peters, Jr.\*

Cognitive psychologists know that judgments made in hindsight are distorted by two cognitive heuristics—hindsight bias and outcome bias. *Hindsight bias* makes bad outcomes seem more predictable in hindsight than they were *ex ante*.<sup>1</sup> *Outcome bias* induces us to assume that people who cause accidents have been careless.<sup>2</sup> Because of these biases, individuals who know that a bad outcome has occurred tend to evaluate prior conduct more harshly than they would if they were unaware of the actual outcome.

In negligence actions, defendants are supposed to be judged by the reasonableness of their conduct, not by its outcome. Jurors are asked to put themselves in the shoes of the defendant at the time of the challenged conduct. However, the findings of cognitive psychology warn us that jurors who know the outcome will find it very difficult to assume a foresight perspective.<sup>3</sup> As a result, both psychologists and legal scholars fear that tort litigation will be systematically unfair to defendants.

In the decade since the pro-plaintiff implications of this research data have been understood, several proposals have been made for minimizing the impact of the biases on jury verdicts. A few commentators have recommended that the risk of bias be minimized by bifurcating the adjudication of liability and damages. Psychologist Hal Arkes and law professor Cindy Schipani even considered replacement of the traditional tort standard of reasonable care with a good faith standard of care similar to the

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\* Ruth L. Hulston Professor of Law, University of Missouri-Columbia. I would like to thank Gary Schwartz, Russell Korobkin, Jeffrey Rachlinski and Chris Guthrie for their helpful comments. I am also grateful for the exceptional assistance of Cheryl Poelling and Ashley Ratcliffe and for the generous financial support of the John K. Hulston and the Charles Rehm Faculty Research Fellowships.

1. The bias was first described by Fischhoff in 1975. See Baruch Fischhoff, *Hindsight ≠ Foresight: The Effect of Outcome Knowledge on Judgment Under Uncertainty*, 1 J. EXPERIMENTAL PSYCHOL.: HUM. PERCEPTION & PERFORMANCE 288 (1975).

2. See Jonathan Baron & John C. Hershey, *Outcome Bias in Decision Evaluation*, 54 J. PERSONALITY & SOC. PSYCHOL. 569, 570 (1988).

3. See Kim A. Kamin & Jeffrey J. Rachlinski, *Ex Post ≠ Ex Ante: Determining Liability in Hindsight*, 19 L. & HUM. BEHAV. 89, 90 (1995).

“business judgment rule” used in corporate law.<sup>4</sup> Others have proposed a clear and convincing burden of proof.<sup>5</sup> Jeffrey Rachlinski has advocated, among other things, that the task of setting the tort standard of reasonable care be taken from the jury and be replaced with a standard of care that is established *ex ante*, such as compliance with reliable customary norms.<sup>6</sup> Most recently, Russell Korobkin and Thomas Ulen have recommended two other solutions. The first is wider use of strict liability and the second is broader reliance on prospective administrative safety regulation.<sup>7</sup>

Liability insurers, manufacturers and other tort defendants will welcome these scholarly recommendations for tort reform. They are especially likely to favor greater deference to *ex ante* “state of the art” industry norms and broader statutory preemption of tort liability in favor of administrative compliance.

Lawmakers should respond cautiously to these requests for reform. There are three important reasons for resisting the temptation to adopt reforms that, while elegant in theory, are likely to significantly favor tort defendants. First, the civil justice system is a complex process that favors plaintiffs in some respects and defendants in others. The attributes that favor defendants include juror distrust of plaintiffs’ motives, the obstacles that victims face in bringing their claims to court, and the presence of cognitive biases that favor defendants, such as anchoring and defensive attribution. These advantages may already offset any benefit conferred upon plaintiffs by hindsight bias. In addition, the General Theory of the Second Best informs us that fixing imperfections that favor plaintiffs while tolerating those that favor defendants can actually make the overall situation worse, rather than better.

Second, the litigation process differs from experimental studies in several important respects. Actual jury trials have higher stakes, more robust facts, individual accountability, and group deliberations. In addition, judges and defense counsel have tools for disarming pro-plaintiff biases. Although no single aspect of the jury trial process is likely to eliminate the hindsight biases altogether, its combination of attributes could significantly weaken the

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4. See Hal R. Arkes & Cindy Schipani, *Medical Malpractice v. The Business Judgment Rule: Differences in Hindsight Bias*, 73 OR. L. REV. 587, 630 (1994). They ultimately decided against this step and recommended bifurcation, instead. See *id.* at 637-38.

5. See Christine Jolls et al., *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471, 1529-32 (1998).

6. See Jeffrey J. Rachlinski, *A Positive Psychological Theory of Judging in Hindsight*, 65 U. CHI. L. REV. 571 (1998); see also Kamin & Rachlinski, *supra* note 3.

7. See Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics* 51-53 (Mar. 1999) (unpublished manuscript, on file with author).

influence of the hindsight biases. Until the impact of these differences between experimental studies and trials have been investigated further, lawmakers should refrain from enacting one-sided reforms.

Third, a number of relatively even-handed reforms should be tested before resorting to defense-oriented reforms such as deference to custom or administrative preemption. These strategies include bifurcating the trial of liability and damages, re-instituting unanimous verdicts, and permitting jurors to take notes and ask questions. In addition, modest changes in judicial communication with jurors could possibly reduce the impact of hindsight bias, including informing the jury early about the burden of proof, explaining the hindsight bias, and instructing jurors to discuss the facts before voting.

Collectively, these considerations counsel against prematurely adopting reforms that would significantly favor defendants. Before such reforms are enacted, we need far more information than we currently possess about (1) the power of pro-defendant biases, (2) the transportability of experimental research findings to actual jury deliberations, and (3) the efficacy of trial-based debiasing strategies.

### I. THE HINDSIGHT BIASES

Conventional decision theory assumes that people make decisions based on the level of welfare that their actions are expected to produce.<sup>8</sup> Under conventional expected utility analysis, these estimates are calculated efficiently, making the best use of the information available.<sup>9</sup> However, cognitive psychologists have identified a number of heuristics or biases that lead individuals to make decisions that would not have been predicted by conventional decision theory.<sup>10</sup> These heuristics provide cognitive shortcuts to help solve complex problems.<sup>11</sup> Although they can be useful, they can also lead to systematic errors.<sup>12</sup>

Two of these heuristics, hindsight bias and outcome bias, distort judgments that individuals make in hindsight. They induce individuals both

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8. See Roger G. Noll & James E. Krier, *Some Implications of Cognitive Psychology for Risk Regulation*, 19 J. LEGAL STUD. 747, 750 (1990).

9. See *id.*

10. See Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 SCIENCE 453, 453-54 (1981).

11. See Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, 185 SCIENCE 1124, 1124 (1974) [hereinafter Tversky & Kahneman, *Heuristics & Biases*].

12. See *id.*

to overestimate the predictability of bad outcomes and to judge conduct more harshly in hindsight.

### A. Hindsight Bias

Hindsight bias causes people who know the outcome of an event to overestimate the likelihood that they would have predicted that outcome had they been asked to do so beforehand.<sup>13</sup> In the words of two pioneers in the field, Paul Slovic and Baruch Fischhoff, people “exaggerate the predictability of reported outcomes.”<sup>14</sup> In his review of the literature, Rachlinski estimated that the hindsight bias gives a fifteen percent boost to the perceived probability of an occurrence.<sup>15</sup> Hindsight bias has been observed in many settings,<sup>16</sup> including politics,<sup>17</sup> historical judgment,<sup>18</sup> and medical diagnoses.<sup>19</sup>

In a 1988 study, for example, Neal Dawson and his colleagues provided physicians and medical students with information about four medical cases.<sup>20</sup> Some of the physicians were told the correct diagnosis and some were not. Those who were not told the correct diagnosis were asked to rank five possible diagnoses on the basis of probability and to assign a probability to each. Those who had been told the correct diagnosis were asked to stand in the shoes of the original treating physician and rank the probabilities “the way you would have if you had been making the initial differential diagnosis . . . with all information except the pathologist’s final diagnostic report.”<sup>21</sup> Only 30% of the subjects who did not know the ultimate diagnosis ranked the

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13. See Arkes & Schipani, *supra* note 4, at 588.

14. Paul Slovic & Baruch Fischhoff, *On the Psychology of Experimental Surprises*, 3 J. EXPERIMENTAL PSYCHOL.: HUM. PERCEPTION & PERFORMANCE 544, 544 (1977).

15. See Rachlinski, *supra* note 6, at 606.

16. See Hal R. Arkes et al., *Eliminating the Hindsight Bias*, 73 J. APPLIED PSYCHOL. 305, 305 (1988) [hereinafter Arkes et al., *Eliminating the Hindsight Bias*].

17. See Mark R. Leary, *Hindsight Distortion and the 1980 Presidential Election*, 8 PERSONALITY & SOC. PSYCHOL. BULL. 257, 261-62 (1982).

18. See Baruch Fischhoff, *For Those Condemned to Study the Past: Reflections on Historical Judgment*, in NEW DIRECTIONS FOR METHODOLOGY OF SOCIAL AND BEHAVIORAL SCIENCE: FALLIBLE JUDGMENT IN BEHAVIORAL RESEARCH 79, 82 (Richard A. Shweder & Donald W. Fiske eds., 1980).

19. See Arkes et al., *Eliminating the Hindsight Bias*, *supra* note 16, at 305; Hal R. Arkes et al., *Hindsight Bias Among Physicians Weighing the Likelihood of Diagnoses*, 66 J. APPLIED PSYCHOL. 252, 252 (1981) [hereinafter Arkes et al., *Hindsight Bias Among Physicians*].

20. See Neal V. Dawson et al., *Hindsight Bias: An Impediment to Accurate Probability Estimation in Clinicopathologic Conferences*, 8 MED. DECISION MAKING 259, 259-64 (1988).

21. *Id.* at 260.

correct diagnosis first, while 50% of the hindsight subjects did.<sup>22</sup> Thus, the subjects who knew the outcome post hoc overestimated its predictability ex ante.

In another study, Susan and Gary LaBine explored whether knowledge of a bad outcome would skew judgments about the reasonableness of measures taken by psychologists to prevent harm by potentially violent patients.<sup>23</sup> All subjects were asked to read clinical case scenarios involving the treatment of potentially violent patients. Some were told that the patient actually became violent. Others were either told nothing about the outcome or they were told that the patient caused no harm. Those who had been told of a violent outcome rated the violence as more foreseeable than either of the other two groups.<sup>24</sup> Once an outcome is known, the researchers concluded, it is hard to reconstruct the prior state of mind in which the outcome is unknown.<sup>25</sup>

The implications for tort liability are obvious. The LaBines cite the case of *Davis v. Lhim*,<sup>26</sup> as an example.<sup>27</sup> In that case, a patient fatally shot his mother when she tried to prevent him from firing a shotgun in his aunt's home.<sup>28</sup> The mother's estate contended that she was a foreseeable victim of negligence by her son's psychiatrist.<sup>29</sup> Yet, the only evidence of any threat to her was a single note made during an emergency room visit two years earlier, stating only that her son "keeps threatening his mother for money."<sup>30</sup> The court concluded that she was a foreseeable victim. Hindsight, the LaBines suggest, may have colored this judgment.<sup>31</sup>

The influence of hindsight bias is not limited to judgments about foreseeability. Hindsight bias can also skew post hoc judgments about the reasonability of prior conduct. Because the hindsight bias makes bad outcomes seem more predictable than they really were at the time, it can lead hindsight evaluators to assume that reasonable persons would have taken more precautions than the defendant did. Many studies have demonstrated that evaluative judgments are linked to assessments of foreseeability.<sup>32</sup>

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22. See *id.* at 261.

23. See Susan J. LaBine & Gary LaBine, *Determinations of Negligence and the Hindsight Bias*, 20 L. & HUM. BEHAV. 501, 507-08 (1996). The study was prompted by concern over *Tarasoff v. Regents of the Univ. of Cal.*, 551 P.2d 334 (Cal. 1976).

24. See *id.* at 509-10.

25. See *id.* at 503.

26. 335 N.W.2d 481 (Mich. Ct. App. 1983).

27. See LaBine & LaBine, *supra* note 23, at 503.

28. See *Davis*, 335 N.W.2d at 484.

29. See *id.*

30. *Id.* at 490.

31. See LaBine & LaBine, *supra* note 23, at 503.

32. See, e.g., D. Jordan Lowe & Philip M.J. Reckers, *The Effects of Hindsight Bias on Jurors' Evaluations of Auditor Decisions*, 25 DECISION SCI. 401, 403 (reviewing the literature).

Individuals who know the outcome of a decision not only overestimate the predictability of bad outcomes, but also are more likely to evaluate the decision negatively. As a consequence, hindsight bias may lead jurors to mistakenly conclude not only that the plaintiff was a foreseeable victim of the defendant's conduct, thus establishing proximate cause, but also that the defendant should have taken greater precautions to avoid this foreseeable danger, thus establishing the defendant's negligence.

### B. Outcome Bias

Knowledge of bad outcomes also has a second independent heuristic effect. When people know that things turned out badly, they are more likely to believe that someone was careless.<sup>33</sup> This heuristic is called the outcome bias.<sup>34</sup> Mitchell and Kalb found, for example, that nurse supervisors who know about a bad outcome are more likely to review a nurse negatively than supervisors who do not know about a bad outcome.<sup>35</sup> Similarly, a study by Anderson found that clinical psychology students evaluate the clinical judgments of doctors more harshly when informed of a bad outcome.<sup>36</sup>

This bias is independent of the hindsight bias, although both can cause unfair evaluative judgments.<sup>37</sup> Hindsight bias distorts post hoc evaluative judgments by inflating the foreseeability of bad outcomes. Outcome bias distorts hindsight judgments by associating bad outcomes with bad decisions. Outcome bias, consequently, appears even when subjects are told in advance the probability of a bad outcome.<sup>38</sup>

In a famous study by Baron and Hershey, for example, subjects were told that eight percent of the patients who have a certain heart bypass operation die from the operation itself.<sup>39</sup> They were then asked to evaluate a surgeon's decision to go ahead with the surgery. Those subjects who were told that the

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33. See, e.g., Baron & Hershey, *supra* note 2, at 578; Robert A. Caplan et al., *Effect of Outcome on Physician Judgments of Appropriateness of Care*, 265 JAMA 1957, 1960 (1991); Rachlinski, *supra* note 6, at 581 n.36 (collecting studies on outcome bias); Dan Zakay, *The Evaluation of Managerial Decisions' Quality by Managers*, 56 ACTA PSYCHOLOGICA 49, 52 tbl.1, 55 (1984) (stating that outcome is the most important indicator of decision quality in the eyes of professional managers).

34. See Baron & Hershey, *supra* note 2, at 570.

35. See Terence R. Mitchell & Laura S. Kalb, *Effects of Outcome Knowledge and Outcome Valence on Supervisors' Evaluations*, 66 J. APPLIED PSYCHOL. 604 (1981).

36. See L. Anderson, *Is Hindsight a Fair Judge of Foresight: An Experimental Investigation of Second-Guessing* (1986) (unpublished doctoral dissertation, Loyola University), *cited in* Lowe & Reckers, *supra* note 32, at 403.

37. See Baron & Hershey, *supra* note 2, at 570.

38. See *id.*

39. See *id.* at 571.

surgery was successful rated the decision significantly more favorably than those who were told that it failed.<sup>40</sup>

In real life, the two biases can work together.<sup>41</sup> Most researchers have not attempted to isolate their separate effects and, instead, have simply studied whether outcome information influences evaluative judgments. For example, Lowe and Reckers surveyed members of a Phoenix, Arizona jury pool and asked them about the quality of work performed by auditors in a hypothetical case.<sup>42</sup> The jurors who were given negative outcome information gave significantly lower evaluations of the auditors' performance.<sup>43</sup> And in a 1996 study, subjects were asked whether a mental health therapist who had taken some measures to prevent violence by her patient (like alerting police) should have done more.<sup>44</sup> Subjects who were told that the patient later committed a violent act were more likely to conclude that the therapist failed to take reasonable precautions.

Outcome bias appears to be most serious when the victim's injuries are severe. Although the research findings have been inconsistent,<sup>45</sup> most conclude that severity is associated with a greater assessment of fault.<sup>46</sup> In a study by Caplan, Posner, and Cheney, for example, anesthesiologists were asked to judge the appropriateness of care in twenty-one cases involving adverse anesthetic outcomes.<sup>47</sup> Some of the subjects were told that the injuries incurred were permanent and others were told the injuries were temporary. Judgments of appropriate care decreased by thirty-one percent when the subjects were told that the injury was severe.<sup>48</sup> These findings are

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40. See *id.* at 571-72.

41. See *id.* at 570.

42. See Lowe & Reckers, *supra* note 32, at 408-11.

43. See *id.* at 413.

44. See LaBine & LaBine, *supra* note 23, at 507-08.

45. See Robert MacCoun, *Inside the Black Box: What Empirical Research Tells Us About Decisionmaking by Civil Juries*, in VERDICT: ASSESSING THE CIVIL JURY SYSTEM 137, 155-56 (Robert E. Litan ed., 1993).

46. See STEPHEN DANIELS & JOANNE MARTIN, CIVIL JURIES AND THE POLITICS OF REFORM 127 (1995); Caplan et al., *supra* note 33, at 1957; Neal Feigenson et al., *Effect of Blameworthiness and Outcome Severity on Attributions of Responsibility and Damage Awards in Comparative Negligence Cases*, 21 L. AND HUM. BEHAV. 597, 608 (1997); 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, 780 (1992); Elaine Walster, "Second Guessing" Important Events, 20 HUM. REL. 239, 247-48 (1967). *But cf.* Frank A. Sloan & Chee Ruey Hsieh, *Variability in Medical Malpractice Payments: Is the Compensation Fair?*, 24 L. & SOC'Y REV. 997, 1018 (1990) (finding a correlation that was not statistically significant).

47. See Caplan et al., *supra* note 33, at 1957. Other studies have also shown that experts are not immune to hindsight bias. See, e.g., Arkes et al., *Hindsight Bias Among Physicians*, *supra* note 19, at 253 (studying physicians' judgments).

48. See Caplan et al., *supra* note 33, at 1959.



consistent with an important study of bifurcated mock-trials which found that defendants prevailed more often when liability was determined before testimony about damages was heard.<sup>49</sup>

### C. Implications

In negligence litigation, defendants are supposed to be judged by the reasonableness of their conduct, not by its outcome.<sup>50</sup> Although jurors must make their evaluation in hindsight, they are asked to put themselves in the shoes of the defendant at the time of the challenged conduct.<sup>51</sup> Because of the hindsight biases, however, jurors will find it very difficult to do so.<sup>52</sup> Unless these biases are neutralized, jurors are likely to conclude that defendants should have taken more precautions than seemed reasonable at the time.

Verdicts unduly influenced by these biases will be both unjust and inefficient. They will be unjust because they will judge the defendant through the prism of hindsight.<sup>53</sup> And they will be inefficient because they will encourage more investment in accident avoidance than is warranted by the genuinely foreseeable risks.<sup>54</sup>

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49. See Irwin A. Horowitz & Kenneth S. Bordens, *An Experimental Investigation of Procedural Issues in Complex Tort Trials*, 14 L. & HUM. BEHAV. 269, 281 (1990). Plaintiffs won less often, but their damages were higher.

50. See, e.g., RESTATEMENT (SECOND) OF TORTS § 282 (1965).

51. See, e.g., *Holbrook v. Fokes*, 393 S.E.2d 718, 719 (Ga. Ct. App. 1990); RESTATEMENT (SECOND) OF TORTS § 283 (1965); W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 37, at 236-37 (5th ed. 1984).

52. See Kamin & Rachlinski, *supra* note 3, at 90.

53. Although it is conventional to refer to the difference between foresight and hindsight assessments of probability as a "hindsight bias," researchers have not tested to see which assessment is more likely to be accurate. Thus, it is possible that hindsight judgments are closer to the actual probability of an adverse event than foresight predictions and that the difference in estimates is caused by a tendency in foresight to underestimate probabilities. See Jolls et al., *supra* note 5, at 1525; Kamin & Rachlinski, *supra* note 3, at 101; Mark Kelman et al., *Decomposing Hindsight Bias*, 16 J. RISK & UNCERTAINTY 251, 258-61 (1998). If so, hindsight judgments would provide a more efficient level of deterrence. However, they would hold the defendant to a standard that would not have appeared appropriate to a reasonable person in the defendant's shoes. See Kamin & Rachlinski, *supra* note 3, at 101.

54. See Rachlinski, *supra* note 6, at 596-602. Whether it actually causes inefficient behavior will depend upon the amount of the bias, the costs of the excess precautions and the impact of those precautions on the probability of an adverse outcome. See *id.* If the bias is extreme, defendants will still minimize costs by taking the socially optimal level of care and accepting liability, much like a strict liability regime.

## II. DEBIASING RESEARCH

Can these biases be neutralized? Researchers have tried both motivational and cognitive strategies for reducing or eliminating the hindsight biases.

### A. Motivational Strategies

Early efforts to eliminate the hindsight biases focused on relatively simple steps such as warning the study subjects about hindsight bias and encouraging them to resist it. These motivational strategies failed. Neither warnings about the bias nor exhortations to try harder reduced the bias substantially.<sup>55</sup> Nor did paying subjects a modest amount for correct estimates.<sup>56</sup> Researchers hypothesized that exhortations fail because the biasing process is largely subconscious and automatic.<sup>57</sup> Because the subjects are not aware that their judgments are being distorted, they have great difficulty reversing the process.<sup>58</sup>

Nevertheless, more recent debiasing efforts have been more successful. In a 1993 study by Creyer and Ross, the accuracy of the subjects' probability assessments was improved when accuracy was important to them.<sup>59</sup> The authors hypothesized that importance improved effort and that effort reduced bias. Campbell and Tesser found a similar improvement when accurate recall was associated with esteem-maintaining values such as social

55. See, e.g., Martin F. Davies, *Field-Dependence and Hindsight Bias: Output Interference in the Generation of Reasons*, 27 J. RES. PERSONALITY 222, 226 (1993) (stating that giving instructions to work harder or avoid bias had no effect); Baruch Fischhoff, *Perceived Informativeness of Facts*, 3 J. EXPERIMENTAL PSYCHOL.: HUM. PERCEPTION & PERFORMANCE 349, 354-56 (1977) (finding that hindsight bias was unaffected by warnings); Donald Sharpe & John G. Adair, *Reversibility of the Hindsight Bias: Manipulation of Experimental Demands*, 56 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 233, 238-42 (1993) (noting that telling subjects not to be biased had no impact).

56. See Wolfgang Hell et al., *Hindsight Bias: An Interaction of Automatic and Motivational Factors?*, 16 MEMORY & COGNITION 533, 538 (1988).

57. See Hal R. Arkes, *Costs and Benefits of Judgment Errors: Implications for Debiasing*, 110 PSYCHOL. BULL. 486, 493 (1991) [hereinafter Arkes, *Costs and Benefits*]; Ronnie Janoff-Bulman et al., *Cognitive Biases in Blaming the Victim*, 21 J. EXPERIMENTAL SOC. PSYCHOL. 161, 176 (1985); cf. Roger Ratcliff & Gail McKoon, *Automatic and Strategic Priming in Recognition*, 20 J. VERBAL LEARNING & VERBAL BEHAV. 204, 208 (1981) (finding that the priming effect in item recognition is largely automatic).

58. As Hal Arkes notes, "motivated subjects will merely perform the suboptimal behavior with more enthusiasm." Arkes, *Costs and Benefits*, *supra* note 57, at 493.

59. See Elizabeth Creyer & William T. Ross, Jr., *Hindsight Bias and Inferences in Choice: The Mediating Effect of Cognitive Effort*, 55 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 61, 71-75 (1993). Hawkins and Hastie also report that "a highly motivated subject will show diminished hindsight effects." Scott A. Hawkins & Reid Hastie, *Hindsight: Biased Judgments of Past Events After the Outcomes Are Known*, 107 PSYCHOL. BULL. 311, 316 (1990).

desirability and ego involvement.<sup>60</sup> When accurate judgments are important to the subjects, they can reduce the bias caused by knowledge of the outcome.

The most promising evidence that motivational strategies can succeed was found by Stallard and Worthington. In their 1998 study, they found that appeals to justice can nearly eliminate the hindsight biases. This study incorporated a debiasing strategy within the defendant's closing argument.<sup>61</sup> First, defense counsel reminded the mock jurors that the plaintiff wanted them to be a "Monday-morning quarterback."<sup>62</sup> Second, defense counsel ended her closing with an appeal not to use hindsight or second-guess the decisions of the defendants.<sup>63</sup> These tactics reduced hindsight bias by over 70%.<sup>64</sup>

### B. Cognitive Strategies

Cognitive processes are believed to be the most powerful sources of hindsight bias.<sup>65</sup> Individuals who are given outcome information are believed to assimilate it with the limited information that they already know to build a coherent story.<sup>66</sup> When they are given information about a bad outcome, they "rewrite the story" so that the beginning and middle provide a causal explanation for what they now know to be the end.<sup>67</sup> Thus, they build a story from back to front. Thereafter, they view the actual outcome as natural and find it difficult to see how alternative outcomes could have occurred.<sup>68</sup>

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60. See Jennifer D. Campbell & Abraham Tesser, *Motivational Interpretations of Hindsight Bias: An Individual Difference Analysis*, 51 J. PERSONALITY 605, 616 (1983).

61. See Merrie Jo Stallard & Debra L. Worthington, *Reducing the Hindsight Bias Utilizing Attorney Closing Arguments*, 22 L. & HUM. BEHAV. 671, 680-81 (1998).

62. *Id.* at 675.

63. *See id.*

64. *See id.* at 679 tbl. 3 (finding that hindsight bias increased assessment of negligence from 29% to 57% and that their debiasing strategy reduced it to 37%, thereby reducing the increase attributable to hindsight from 28% to 8%). The researchers attributed their success to counteracting the availability heuristic by making alternative outcomes more available. *See id.* at 680-81.

65. *See e.g.*, Hawkins & Hastie, *supra* note 59, at 317, 324; Hell et al., *supra* note 56, at 533, 537-38; Rachlinski, *supra* note 6, at 582-86; David Wasserman et al., *Hindsight and Causality*, 17 PERSONALITY & SOC. PSYCHOL. BULL. 30, 31 (1991).

66. See Fischhoff, *supra* note 1, at 297; Lowe & Reckers, *supra* note 32, at 405.

67. *See* Lowe & Reckers, *supra* note 32, at 405-06; David A. Schkade & Lynda M. Kilbourne, *Expectation-Outcome Consistency and Hindsight Bias*, 49 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 105, 107 (1991).

68. The availability heuristic may contribute to this effect. That cognitive bias causes people to assign probabilities based on the ease with which familiar instances come to mind. *See* Stallard & Worthington, *supra* note 61, at 680-81; accord Arkes, *Costs and Benefits*, *supra* note 57, at 488.

This cognitive process makes the outcome seem more predictable than it actually was and can produce unfair judgments about the culpability of the conduct that gave rise to the outcome.

To prevent this bias, researchers have experimented with debiasing strategies intended to weaken the causal link prematurely constructed between the known outcome and the antecedent behavior. In particular, subjects have been encouraged to seriously consider evidence that other outcomes were also possible.<sup>69</sup> The goal is to break down the causal link prematurely constructed and to rebuild new links using the additional information about other possible outcomes. Ideally, the process will move individuals from a hindsight to a foresight perspective, i.e., from a perspective that merely requires the explanation of one outcome to one that requires consideration of multiple possible outcomes.<sup>70</sup>

A study by Lowe and Reckers, for example, attempted to debias hindsight evaluations of auditor competence.<sup>71</sup> Subjects were informed that a company had gone into bankruptcy and that its auditors had been sued by third-parties who relied upon a pre-bankruptcy audit. The quality of that audit had to be evaluated. Some of the subjects were given alternative positive outcomes to consider (involving solvency rather than bankruptcy), asked to estimate the probability that these alternative outcomes could have occurred, and asked to provide their own alternative outcome.<sup>72</sup> The researchers found that the subjects exposed to this debiasing strategy provided "significantly higher evaluations of the auditor's decision."<sup>73</sup> Roughly two-thirds of the hindsight bias was eliminated by this "consider the opposite" exercise.<sup>74</sup>

In a study of neuropsychologists, Hal Arkes and his colleagues attempted to eliminate the hindsight biases by asking subjects to think concretely about alternative outcomes that could have occurred.<sup>75</sup> The foresight group of subjects read a case history and were asked to determine the probability of three different diagnoses. The hindsight group were also told that one of the

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The availability of the outcome information may, in hindsight, make other less available outcomes seem less probable.

69. See *infra* text accompanying notes 70-84.

70. See Lowe & Reckers, *supra* note 32, at 406.

71. See *id.* at 401.

72. See *id.* at 412.

73. *Id.* at 414 ("The mean evaluation in the negative outcome condition was 2.97 as compared to 4.21 and 4.91 for the debiased negative outcome and no outcome conditions, respectively.")

74. See *id.* at 414 tbl. 2 (debiasing reduced the difference between no outcome and negative outcome evaluations from 1.94 points to .70 points).

75. See Arkes et al., *Eliminating the Hindsight Bias*, *supra* note 16, at 305.

diagnoses was correct. The researchers then tested a debiasing strategy by asking a fraction of each group to list one piece of evidence from the case history to support each of the three possible diagnoses. This debiasing strategy reduced the hindsight effect to a level that was not statistically significant.<sup>76</sup> Arkes believed that this strategy was effective because it reduced the inappropriate confidence that the subjects would otherwise have had in the accuracy of their initial responses and, thus, reduced the impact of the hindsight biases.<sup>77</sup>

Other researchers have also had some success reducing the hindsight biases by asking subjects to give reasons for the probabilities that they assign and by asking subjects to consider alternative outcomes.<sup>78</sup> Nario and Branscombe found that explaining one alternative outcome eliminated hindsight bias entirely and that explaining several alternatives produced estimates of likelihood even lower than those given by subjects who had no knowledge of the outcome.<sup>79</sup> Similarly, Slovic and Fischhoff decreased the hindsight bias by informing their subjects of alternative outcomes that could have occurred and asking them if they would be able to explain those outcomes.<sup>80</sup> Davies replicated these results later.<sup>81</sup> “Forcing subjects to

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76. The number of subjects manifesting hindsight bias was also significantly lower among the hindsight subjects who were asked to state their reasons than among those who were not. *See id.* at 307.

77. *See id.* at 494.

78. *See* Davies, *supra* note 55, at 232; Hell et al., *supra* note 56, at 536-37. The promise of these debiasing strategies is further evidenced by the success researchers have had using them to reduce another bias called the overconfidence bias. *See* Asher Koriat et al., *Reasons for Confidence*, 6 J. EXPERIMENTAL PSYCHOL.: HUM. LEARNING & MEMORY 107, 113 (1980). The overconfidence bias causes people to place more confidence in their answers than they should. In a study by Koriat and his colleagues, subjects were given general knowledge questions with two possible answers. *See id.* at 109. They chose the answers that they believed to be correct and then indicated their level of confidence in their answer. *See id.* at 109. They demonstrated a level of confidence much greater than their level of accuracy. *See id.* at 109-14. Another group of subjects was asked to state reasons why each of the possible answers might be correct before they expressed their degree of confidence in their answers. *See id.* at 109. These subjects demonstrated far less overconfidence than the control group. *See id.* at 109-12, 113-14. Stephen Hoch replicated these results five years later. *See* Stephen J. Hoch, *Counterfactual Reasoning and Accuracy in Predicting Personal Events*, 11 J. EXPERIMENTAL PSYCHOL.: LEARNING, MEMORY, & COGNITION 719, 729 (1985) (finding that Koriat's technique was able to lower overconfidence in forecasts made by business students). He concluded that accuracy had improved “because the remedial intervention occurred before the crystallization of feelings of uncertainty.” *Id.* A 1982 study by Fischhoff and MacGregor, however, was not able to replicate the Koriat results. *See* Baruch Fischhoff & Don MacGregor, *Subjective Confidence in Forecasts*, 1 J. FORECASTING 155, 166 (1982).

79. *See* Michelle R. Nario & Nyla R. Branscombe, *Comparison Processes in Hindsight and Caused Attribution*, 21 PERSONALITY & SOC. PSYCHOL. BULL. 1244, 1249 (1995).

80. *See* Slovic & Fischhoff, *supra* note 14, at 548.

consider the alternative outcomes by explaining or imagining their occurrence," he concluded, "makes the reported outcome seem relatively less obvious in hindsight."<sup>82</sup>

Juxtaposed against these successful efforts are the findings of another less encouraging study. In a 1995 study by Kamin and Rachlinski, mock jurors were warned by the judge of the danger of hindsight and encouraged by the judge and defense counsel to "think of all the ways" that the accident could have happened.<sup>83</sup> These admonitions had no effect on the bias.<sup>84</sup>

To summarize, most of the studies indicate that forcing subjects to think concretely about all possible outcomes reduces the hindsight bias markedly. This activity primes cognitive processes that would not otherwise be stimulated and, thus, "new causal skids are greased."<sup>85</sup> Although more research will be needed to ascertain precisely how actively the subjects must participate in the debiasing exercise in order to reduce the bias, the current findings justify cautious optimism about the debiasing potential of strategies that actively engage the subjects in a foresight exercise. Motivational strategies emphasizing the need to reach a fair verdict have promise as well.

### III. PREVIOUS PROPOSALS FOR DEBIASING TORT LITIGATION

The danger that jury verdicts will be tainted by hindsight bias has led both psychologists and law professors to search for ways to reduce the risk of biased jury verdicts. In 1989, Wexler and Schopp proposed that malpractice trials be bifurcated so that juries would not hear testimony about the plaintiff's damages until rendering a verdict on liability.<sup>86</sup> Five years later, psychologist Hal Arkes and law professor Cindy Schipani considered, but ultimately rejected, a proposal that medical malpractice defendants be judged by a good faith standard similar to the "business judgment rule" used in corporate law.<sup>87</sup> They, too, recommended bifurcation.

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81. See Martin F. Davies, *Reduction of Hindsight Bias by Restoration of Foresight Perspective: Effectiveness of Foresight-Encoding and Hindsight-Retrieval Strategies*, 40 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 50, 63 (1987).

82. *Id.* at 61.

83. See Kamin & Rachlinski, *supra* note 3, at 94-97.

84. See *id.* at 98; see also Janoff-Bulman et al., *supra* note 57, at 161, 169-73 (finding that requesting subjects to explain a neutral outcome did not reduce victim blaming).

85. Arkes, *Costs and Benefits*, *supra* note 57, at 494.

86. See David B. Wexler & Robert F. Schopp, *How and When to Correct for Juror Hindsight Bias in Mental Health Malpractice Litigation: Some Preliminary Observations*, 7 BEHAV. SCI. & L. 485, 493-97 (1989). They also propose the use of expert testimony explaining the hindsight bias, see *id.* at 490-92, and better jury instructions, see *id.* at 492.

87. See Arkes & Schipani, *supra* note 4, at 630.

The most thoughtful analysis of the hindsight biases was undertaken by law professor Jeffrey Rachlinski.<sup>88</sup> After briefly reviewing the research on debiasing strategies, he concluded that neither motivational nor cognitive debiasing strategies could eliminate the hindsight bias altogether.<sup>89</sup> He also concluded that the cognitive strategies most successfully employed in the experimental setting, like asking subjects to consider and explain alternative outcomes, were too intrusive to be used in the courtroom.<sup>90</sup> Although he considered the possibility that jury instructions might reduce the hindsight biases, he noted the general failure of similar efforts in experimental settings.<sup>91</sup> He then examined other procedural debiasing strategies, including special verdicts, bifurcated trials and allocation of the burden of proof to plaintiffs.<sup>92</sup> None of them, he concluded, could eliminate the influence of hindsight bias.

He was more optimistic, however, about two other strategies: relying on ex ante norms to set the standard of care and suppressing evidence of subsequent remedial measures.<sup>93</sup> Rachlinski insightfully reasoned that the problems posed by hindsight biases could possibly be side-stepped if the defendant's conduct were measured against a benchmark, such as customary practices, that is established ex ante rather than post hoc.<sup>94</sup> A customary standard of care shifts the jury's focus from a post hoc evaluation of reasonability to an assessment of compliance with ex ante customs. At least one court has recognized this potential, explicitly explaining its deference to custom in medical malpractice cases as a way of avoiding hindsight jury deliberations.<sup>95</sup>

Under existing tort law, however, customary practices are not ordinarily dispositive.<sup>96</sup> As Judge Learned Hand stated in the *T.J. Hooper Case*, "a whole calling may have unduly lagged in the adoption of new and available devices."<sup>97</sup> Only in the field of professional malpractice is custom the benchmark of reasonability.<sup>98</sup> By so narrowly confining their reliance on

88. See Rachlinski, *supra* note 6, at 576-86.

89. See *id.* at 586-88.

90. See *id.* at 603.

91. See *id.* at 603-04.

92. See *id.* at 604-07. He also considered and rejected a toughening of the burden of proof as too blunt. See also Jolls et al., *supra* note 5, at 1532; Korobkin & Ulen, *supra* note 7, at 50-51.

93. See Rachlinski, *supra* note 6, at 574, 623-24.

94. See *id.* at 608.

95. See *Hall v. Hilbun*, 466 So. 2d 856, 871 (Miss. 1985).

96. See RESTATEMENT (SECOND) OF TORTS § 295A (1965); KEETON ET AL., *supra* note 51, § 33, at 194.

97. 60 F.2d 737, 740 (2d Cir. 1932).

98. As the Prosser and Keeton hornbook explains, traditional tort law "gives the medical profession . . . the privilege, which is usually emphatically denied to other groups, of setting their

custom, Rachlinski suggests, "the courts have failed to recognize the limitations of second-guessing an ex ante norm after an adverse event occurs."<sup>99</sup>

He then recommends that courts look more broadly for instances in which to apply customary standards as the legal norm. "The refusal to rely more heavily on . . . custom," he concludes, "presents a lost opportunity to avoid a biased assessment of liability."<sup>100</sup>

In 1998, Christine Jolls, Cass Sunstein and Richard Thaler suggested two other possible corrective measures: (1) adopting a clear and convincing burden of proof, and (2) where possible, asking jurors to evaluate the ex ante choice facing the defendant without knowing which choice the defendant actually made.<sup>101</sup> Like other scholars who have examined the possibility of a heightened burden of proof,<sup>102</sup> they recognized the risk that a clear and convincing burden of proof would overcorrect the bias, resulting in unfairness to plaintiffs. However, they concluded that this prescription warrants further research.<sup>103</sup> In addition, they proposed a unique form of bifurcation in which the defendant's allegedly negligent choice would not be revealed to the jury until the jury had determined which choice the defendant should have made.<sup>104</sup>

Most recently, Russell Korobkin and Thomas Ulen recommended two other possible solutions.<sup>105</sup> The first is wider use of strict liability and the second is broader reliance on prospective administrative safety regulation,

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own legal standards of conduct, merely by adopting their own practices." KEETON ET AL., *supra* note 51, § 32, at 189 (footnote omitted). However, recent evidence indicates that courts are now slowly abandoning their deference to medical customs. See Philip G. Peters, Jr., *The Quiet Demise of Deference to Custom: Malpractice Law at the Millenium*, WASH. & LEE L. REV. (forthcoming).

99. Rachlinski, *supra* note 6, at 611. Rachlinski acknowledges that industry customs will sometimes be a poor proxy for reasonability. See *id.* at 610-12. Barriers to the development of efficient customs can include high transaction costs between sellers and the people they injure, differences in bargaining power, information asymmetries and differing risk preferences. See *id.* However, he posits that some industry customs will reflect an efficient level of safety precautions. He cites medical malpractice law's deference to custom as a favorable example. See *id.* at 612.

100. *Id.* at 612-13.

101. Jolls et al., *supra* note 5, at 1527-32.

102. See, e.g., Rachlinski, *supra* note 6, at 606; Korobkin & Ulen, *supra* note 7, at 50-51.

103. See Jolls et al., *supra* note 5, at 1530.

104. See *id.* at 1527-29. As Korobkin & Ulen note, and Jolls et al. concede, this solution will only apply in the limited number of cases where the defendant faced a choice between two options, either of which could have caused damage producing the lawsuit. See Jolls et al., *supra* note 5, at 1528-29; Korobkin & Ulen, *supra* note 7, at 51. Jolls, Sunstein, and Thaler give the example of a food processing plant which must decide whether or not to treat its wastes with a chemical that reduces the risk of bacterial infection but increases the risk of cancer. Another example offered is a physician's choice between two dangerous treatment options. In other settings, they recommend more traditional bifurcation. See Jolls et al., *supra* note 5, at 1528-29.

105. See Korobkin & Ulen, *supra* note 7, at 51-53.



presumably preempting subsequent tort litigation.<sup>106</sup> Both would sidestep the hindsight biases by avoiding post hoc assessments of reasonability.

Over the past ten years, therefore, scholars have proposed a remarkable and creative array of potential solutions. Some, like bifurcation, seek to remove or reduce the hindsight biases directly by altering the litigation process. Others, recognizing the limited success of experimental debiasing strategies, would change the substantive tests of liability (e.g., increasing the burden of proof, judging negligence by customary standards or a business judgment rule, or preempting tort liability altogether in favor of administrative safety regulations).

Lawmakers should resist the temptation to act precipitously. In truth, we know very little about the operation of the hindsight biases in actual trial settings or even in realistic experimental settings.<sup>107</sup> What we do know suggests that the hindsight biases may have less influence in actual jury trials than in experimental settings. We also know that many of the distinguishing aspects of actual jury trials have yet to be studied. In addition, a number of relatively even-handed debiasing strategies, such as earlier jury instructions and bifurcation, should be explored before one-sided reforms, like deference to industry customs, are adopted. Furthermore, the civil justice system already has several characteristics that favor defendants, including fact-finder skepticism about plaintiff motives and underclaiming by negligently injured individuals. These factors may offset any advantage conferred upon plaintiffs by the hindsight biases.

#### IV. PRO-DEFENDANT BIASES

The litigation process favors defendants in several important ways. First, jurors often distrust personal injury plaintiffs and side with defendants, especially when physicians are sued. Second, cognitive biases can sometimes favor defendants. Third, defendants benefit from the obstacles that prevent most negligently injured individuals from filing suit. Cumulatively, these biases cast doubt on the assumption that the judicial process unfairly favors plaintiffs.

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106. *See id.*

107. *See* Richard A. Posner, *Rational Choice, Behavioral Economics, and the Law*, 50 STAN. L. REV. 1551, 1572 (1998) (criticizing the Jolls, Sunstein, and Thaler proposal for a heightened burden of proof as based on "such limited evidence"). Posner also notes that any proven pro-plaintiff bias could be attributable to considerations of "fairness" including distributive beliefs about compensation by "deep pockets" defendants. *See id.*

### A. Pro-defendant Sympathies

It is widely believed that plaintiffs benefit from jury sympathies. Yet, an increasing body of evidence suggests that jurors begin their job favoring tort defendants and doubting the motives of personal injury plaintiffs, especially in medical malpractice cases. For example, Ellen L. Leggett has found that one-third of the potential jurors she has studied believe that malpractice plaintiffs are “looking for easy money.”<sup>108</sup> Potential jurors are even more distrustful of plaintiff lawyers than they are of plaintiffs; two-thirds believe that plaintiff lawyers are pressuring dissatisfied plaintiffs into filing suit.<sup>109</sup> And many believe that medical malpractice suits are ruining the health care system by driving up costs.<sup>110</sup>

Neil Vidmar has also found that potential jurors are concerned about plaintiff motives and about an excess of litigation.<sup>111</sup> In his study of North Carolina juries, voir dire often produced remarks that “too many people sue their doctors” and “it is just going to raise the health insurance rates for the rest of us.”<sup>112</sup> Like Leggett, he heard jurors voice their distrust of greedy plaintiff lawyers. Although the jurors who were most explicit with their attitudes were often excluded from jury duty, the pro-physician biases survived in more subtle forms, reflected in comments such as “the doctors were just trying to help his wife and he shows his ingratitude by suing them” or “too many people are unfair to doctors.”<sup>113</sup>

Valerie Hans and William Lofquist found the same anti-plaintiff skepticism in their study of Delaware jurors who had heard cases involving tort claims against business defendants.<sup>114</sup> Their findings surprised them:

Rather than revealing jurors willing or eager to impose on business the costs of plaintiffs' injuries, our findings show that

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108. Ellen L. Leggett, *Identifying Juror Bias and Their Impact on Cases*, (last modified Sept. 7, 1999), available in <<http://www.jri-inc.com/articles.html>> .

109. See *id.*; see also Edith Greene et al., *Jurors' Attitudes About Civil Litigation and the Size of Damage Awards*, 40 AM. U. L. REV. 805, 817 (1991) (finding that most jurors believed attorneys encouraged people to file frivolous lawsuits).

110. See Leggett, *supra* note 108.

111. See NEIL VIDMAR, *MEDICAL MALPRACTICE AND THE AMERICAN JURY: CONFRONTING THE MYTHS ABOUT JURY INCOMPETENCE, DEEP POCKETS, AND OUTRAGEOUS DAMAGE AWARDS* 169-71 (1995).

112. *Id.* at 169.

113. *Id.*

114. See Valerie P. Hans & William Lofquist, *Jurors' Judgments of Business Liability in Tort Cases: Implications for the Litigation Explosion Debate*, 26 L. & SOC'Y REV. 85, 85 (1992) [hereinafter Hans & Lofquist, *Jurors' Judgments*]; see also Valerie P. Hans & William S. Lofquist, *Perceptions of Civil Justice: The Litigation Crisis Attitudes of Civil Jurors*, 12 BEHAV. SCI. & L. 181, 187 (1994) [hereinafter Hans & Lofquist, *Perceptions*] (reporting on a larger sample).

jurors were suspicious of the legitimacy of plaintiffs' claims and concerned about the personal and social costs of large jury awards. . . . [J]urors were generally favorable toward business, skeptical more about the profit motives of individual plaintiffs than of business defendants, and committed to holding down awards.<sup>115</sup>

Four of five jurors surveyed agreed that "[p]eople are too quick to sue" and that "[t]here are far too many frivolous lawsuits today."<sup>116</sup> Only a third felt that "[m]ost people who sue others in court have legitimate grievances."<sup>117</sup> Interestingly, the researchers hypothesized that civil jurors were engaging in a process very similar to the one used to explain the hindsight biases. In the absence of robust information, jurors were creating their own stories about how and why the plaintiffs had chosen to sue.<sup>118</sup>

Public concern about overeagerness to sue has also been documented by other researchers.<sup>119</sup> Publicity about the tort crisis has apparently made citizens deeply concerned about excessive litigation and insurance costs.<sup>120</sup> This concern is associated with lower jury awards.<sup>121</sup> Perhaps this is why most plaintiffs in personal injury cases do less well at trial than they would have done by settling prior to trial.<sup>122</sup>

Surprisingly, most studies have found that juries are actually tougher on plaintiffs than judges are. One of these studies found that jurors rule for plaintiffs far less often than judges do in both product liability and malpractice cases and slightly less often in automobile accident cases.<sup>123</sup> Juries favored plaintiffs more frequently than judges did only in marine and Federal Employers' Liability Act ("FELA") cases.<sup>124</sup> In those cases, the difference was slight. Another study of judge-juror disagreement found

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115. Hans & Lofquist, *Jurors' Judgments*, *supra* note 114, at 93.

116. *Id.*

117. *Id.*

118. *See id.* at 94.

119. *See, e.g.*, David M. Engel, *The Oven Bird's Song: Insiders, Outsiders and Personal Injuries in an American Community*, 18 L. & SOC'Y REV. 551, 553, 559, 560-61 (1984) (finding that citizens in a rural Illinois county disapproved of "cashing in" via personal injury lawsuits and characterized those who did sue as "people looking for the easy buck"). Not all jurors will share these beliefs. *See* Hans & Lofquist, *Jurors' Judgments*, *supra* note 114, at 96.

120. *See* Greene et al., *supra* note 109, at 809; Hans & Lofquist, *Perceptions*, *supra* note 114, at 182; VIDMAR, *supra* note 111, at 171.

121. *See* Hans & Lofquist, *Jurors' Judgments*, *supra* note 114, at 97; *see also* Greene et al., *supra* note 109, at 816 (finding that jurors who favored tort reform gave lower awards).

122. *See* Samuel R. Gross & Kent D. Syverud, *Don't Try: Civil Jury Verdicts in a System Geared to Settlement*, 44 UCLA L. REV. 1, 7 (1996).

123. *See* Kevin M. Clermont & Theodore Eisenberg, *Trial by Jury or Judge: Transcending Empiricism*, 77 CORNELL L. REV. 1124, 1137, 1174 (1992).

124. *See id.* at 1137 (finding that plaintiffs won slightly more often before juries in marine and FELA cases).

“judges were considerably more likely to disagree” with jury defense verdicts (52% disagreement) than with jury plaintiffs’ verdicts (29%).<sup>125</sup>

The implications of these studies on judge-jury concordance are difficult to assess because the difference in judge-jury win rates could conceivably have been caused by a selection bias in the routing of cases to different fact-finders.<sup>126</sup> Nevertheless, the evidence certainly justifies a working hypothesis that juries are much tougher on plaintiffs than either popular stereotype or cognitive bias theory would predict.

That hypothesis is also supported by evidence that juries are less harsh judges of physician negligence than other physicians are. In a 1997 retrospective review of tort cases, Bryan Liang asked anesthesiologists practicing at an academic medical center to review twelve scenarios based on actual jury trials.<sup>127</sup> In five of these cases, there was significant disagreement between the physicians and the actual jury verdict.<sup>128</sup> In four of those five instances, the jury had exonerated a physician whom the reviewers felt had given medically inappropriate care!<sup>129</sup> Another study of jury verdicts found that defendants won fifty-eight percent of the cases that had been classified by the insurance carrier’s consultants as “indefensible.”<sup>130</sup> In both studies, jurors were more sympathetic to defendant physicians than other physicians had been.

### B. Cognitive Biases Favoring Defendants

Cognitive psychology tells us that people who start a decisionmaking process with pro-defendant biases of this kind will find it difficult to abandon their preconceptions when presented with contrary evidence. This tendency

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125. Richard Lempert, *Civil Juries and Complex Cases: Taking Stock After Twelve Years, in VERDICT: ASSESSING THE CIVIL JURY SYSTEM*, *supra* note 45, at 181, 223; *see also* Harry Kalven, Jr., *The Dignity of the Civil Jury*, 50 VA. L. REV. 1055, 1065 (1964) (finding that judges disagreed with plaintiff’s verdicts in 10 of 54 cases (18.5%) and with jury defense verdicts in 11 of 46 cases (21.7%)).

126. *See* Clermont & Eisenberg, *supra* note 123, at 1174. For a study comparing jury verdicts with judges’ opinions on the same personal injury trials, *see* HARRY KALVEN, JR. & HANS ZEISEL, *THE AMERICAN JURY* 63-65 (1966); Kalven, *supra* note 125, at 1065. In nearly four out of five cases (79%), judge and jury agreed, thus disconfirming fears about jury emotionalism or incompetence. *See* Kalven, *supra* note 125, at 1065. In addition, when judge and jury disagreed, the disagreements were virtually evenly split between plaintiffs and defendants. *See id.*

127. Bryan A. Liang, *Assessing Medical Malpractice Jury Verdicts: A Case Study of an Anesthesiology Department*, 7 CORNELL J.L. & PUB. POL’Y 121, 129, 136 (1997).

128. *See id.* at 129.

129. *See id.*

130. Taragin et al., *supra* note 46, at 781.

toward inertia is called *anchoring*.<sup>131</sup> Hindsight biases may actually help to neutralize the unfair advantage that anchoring confers on tort defendants.

*Defensive attribution* is another anti-plaintiff bias that may operate in personal injury actions, especially those cases in which the plaintiff is alleged to have been negligent also. The more severe a victim's injuries, the more responsibility that observers tend to attribute to that victim. Defensively, they blame the victim in order to distance themselves from her and to preserve their belief that they can avoid a similar fate.<sup>132</sup> In a recent experimental study of comparative fault by Feigenson and his colleagues, the study subjects assigned more fault to plaintiffs as severity increased.<sup>133</sup> As a result, the defense attribution bias more than offset the hindsight bias. This finding is consistent with an earlier study finding that hindsight bias increases the fault assigned to victims of sexual abuse.<sup>134</sup>

The subjects in the Feigenson study not only increased the fault assigned to the plaintiff as severity increased, but they also decreased gross damages.<sup>135</sup> Thus, they double-discounted the victim's recovery. Double-discounting was also found in a study by Sloan and Hsieh,<sup>136</sup> where subjects reduced the plaintiff's recovery more than the percent attributed to the plaintiff. For each percentage of fault attributed to plaintiff, awards went down three to five percent.<sup>137</sup> Defensive attribution is therefore a powerful bias that favors tort defendants.

Defendants will also be helped by the tendency of people to underestimate the probability of *disjunctive* events (either/or alternatives).<sup>138</sup> This leads people to underestimate the odds of failure in complex events.<sup>139</sup> This tendency will benefit defendants in complicated cases such as those involving highway design, architecture and medical malpractice. In these cases, juries may see the conduct of the defendant as less risky than it actually was.

Together, the cognitive biases associated with anchoring, defensive attribution and disjunctive events have the potential to offset any advantage conferred upon plaintiffs by hindsight biases. The field of cognitive psychology is too young to tell us the power that these pro-defendant biases are likely to have in tort litigation or the outcomes to expect when these

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131. See Tversky & Kahneman, *supra* note 11, at 1128-30.

132. See Feigenson et al., *supra* note 46, at 597.

133. See *id.* at 608.

134. See Janoff-Bulman et al., *supra* note 57, at 171-72.

135. See Feigenson et al., *supra* note 46, at 599-600.

136. See Sloan & Hsieh, *supra* note 46, at 1024.

137. See *id.* at 1024.

138. See Tversky & Kahneman, *Heuristics & Biases*, *supra* note 11, at 1129. This is a product of the anchoring heuristic. See *id.*

139. See *id.*

biases conflict with hindsight biases. It seems unwise, therefore, to confer significant substantive advantages upon tort defendants until these questions can be better answered

### C. Access Bias

Underclaiming is prevalent in tort law. As a result, tortfeasors receive an inadequate deterrent signal from the judicial process. The hindsight biases may help to reduce this deficit.<sup>140</sup>

Most victims of tortious conduct do not make a claim. The highest fraction to do so are people hurt by automobile negligence; yet, less than half of them file claims.<sup>141</sup> A much smaller percent bring other kinds of claims.<sup>142</sup> A study by the American Bar Association and the American Bar Foundation in the 1970s, for example, found that only 20% of the people who reported tort problems had consulted lawyers about them.<sup>143</sup> A Rand Corporation study of people's responses to disabling injury found that 81% took no action at all.<sup>144</sup>

The most compelling evidence of access bias exists in the field of medical malpractice. The extent of underclaiming here is so vast that the number would not be credible if not so firmly documented. A California study found that one in ten negligently injured patients filed a tort claim.<sup>145</sup> Even more remarkably, only one in six of those who suffered major, permanent injuries

140. See Clayton P. Gillette & James E. Krier, *Risk, Courts, and Agencies*, 138 U. PA. L. REV., 1027, 1042-58 (1990). This subsection is strongly influenced by the work of Gillette and Krier. They argue that pro-plaintiff biases in the judicial process ("process bias") may be outweighed by factors that limit access to the courts ("access bias"). See *id.* at 1044-45. Both types of bias must be assessed before concluding that the process is unfair to defendants on balance. See *id.* at 1045. Consequently, access bias and process bias must be evaluated together, rather than separately. See *id.* at 1056.

141. See Richard L. Abel, *The Real Tort Crisis—Too Few Claims*, 48 OHIO ST. L.J. 443, 449-50 (1987); Rachlinski, *supra* note 6, at 594 n.100. Studies have reported figures from 14% to 66% for the number of auto accident victims retaining lawyers. See Abel, *supra* at 448; Rachlinski, *supra* note 6, at 594 n.100.

142. See Abel, *supra* note 141, at 449-50.

143. See BARBARA A. CURRAN, A.B.A. SPECIAL COMM. TO SURVEY LEGAL NEEDS & AMERICAN BAR FOUND., *THE LEGAL NEEDS OF THE PUBLIC: THE FINAL REPORT OF A NATIONAL SURVEY* 135 (1977).

144. See DEBORAH R. HENSLER ET AL., *THE RAND CORP., COMPENSATION FOR ACCIDENTAL INJURIES IN THE UNITED STATES* 122 (Rand. No. R-3999-HHS/ICS, 1991).

145. See PATRICIA M. DANZON, *MEDICAL MALPRACTICE: THEORY, EVIDENCE AND PUBLIC POLICY* 19 (1985); Michael J. Saks, *Do We Really Know Anything About the Behavior of the Tort Litigation System—And Why Not?*, 140 U. PA. L. REV. 1147, 1183 (1992) (citing CAL. MED. ASS'N & CAL. HOSP. ASS'N, *REPORT ON THE MEDICAL INSURANCE FEASIBILITY STUDY* 101 (Don H. Mills ed., 1977)).

filed suit.<sup>146</sup> A more recent New York study found only 1 claim for every 7.6 negligent injuries.<sup>147</sup> Furthermore, a third study found that 40% of the mishaps reported by physicians to their insurers did not lead to claims.<sup>148</sup> As Richard Abel puts it, “[v]ictims of injury are reluctant to sue, not overeager.”<sup>149</sup>

Under these circumstances, the deterrent signal sent to injurers is likely to be tragically inadequate. Negligent actors will internalize only a fraction of the costs they impose on others. Fear of hindsight bias could actually help to offset some of that underdeterrence.

This interaction between the access and hindsight biases illustrates a phenomenon known in economics as “The General Theory of the Second Best.”<sup>150</sup> According to that theory, the elimination or reduction of one market imperfection (such as hindsight bias) will not necessarily improve allocative efficiency as long as other imperfections (such as access bias) remain.<sup>151</sup> Because two market imperfections can counteract each other, the reduction of one can actually reduce efficiency. In tort litigation, for example, the hindsight biases may partially offset the threat of underdeterrence posed by access bias. Reducing hindsight bias without reducing access bias could, therefore, make matters worse, not better.

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146. See Saks, *supra* note 145, at 1183.

147. See PAUL C. WEILER ET AL., A MEASURE OF MALPRACTICE: MEDICAL INJURY, MALPRACTICE LITIGATION AND PATIENT COMPENSATION 70 tbl. 4.1 (1993). Richard Abel also reports a 1972 study of two hospitals finding that only one in fifteen significantly injured persons filed a claim. See Abel, *supra* note 141, at 448 (citing L. POCINCKI ET AL., REPORT OF SECRETARY’S COMMISSION ON MEDICAL MALPRACTICE, THE INCIDENCE OF IATROGENIC INJURIES 50-70 app. (DHEW No. OS 7389, 1973)).

148. See WILLIAM B. SCHWARTZ & NEIL K. KOMESAR, THE RAND CORP., DOCTORS, DAMAGES AND DETERRENCE: AN ECONOMIC VIEW OF MEDICAL MALPRACTICE 12 (Rand No. R-2340-NIH/RC, 1978) (citing SECRETARY’S COMM’N ON MED. MALPRACTICE, U.S. DEPT. OF HEALTH, EDUCATION & WELFARE, STUDY OF MEDICAL MALPRACTICE CLAIMS CLOSED IN 1970 (1973)).

149. Abel, *supra* note 141, at 450 (listing studies that have found social pressures against suing). Gerald Williams hypothesizes that the wide-spread reluctance of individuals to make formal complaints is attributable to *avoidance*. See Gerald R. Williams, *Negotiation as a Healing Process*, 1996 J. DISP. RESOL. 1, 2-5. He notes that reluctance to sue or make a formal claim has been documented in the consumer setting by the Better Business Bureau (only 4% take steps to redress their complaint) and in the context of contract disputes by Stewart Macauley. See *id.* at 2 & n.4, (citing BETTER BUSINESS BUREAU, BENEFITS FOR THE BOTTOM LINE: A CUSTOMER RELATIONS SEMINAR; Stewart Macauley, *Non-Contractual Relations in Business: A Preliminary Study*, 28 AM. SOC. REV. 55 (1963)).

150. R.G. Lipsey & Kevin Lancaster, *The General Theory of the Second Best*, 24 REV. ECON. STUD. 11 (1956-57).

151. See Richard S. Markovits, *Second Best Theory and Law & Economics: An Introduction*, 73 CHI.-KENT L. REV. 3, 3 (1998).

The Theory of the Second Best reminds us that it is unwise to analyze a single aspect of the judicial process without an appreciation of the other factors influencing that process.<sup>152</sup> Overeager campaigns against one imperfection could be counterproductive. Indeed, the Theory of the Second Best begs the question of whether any effort at all should be made to reduce hindsight bias without simultaneous steps to reduce access bias.

## V. DEBIASING THE CIVIL JURY TRIAL

There is an additional reason why lawmakers should be wary of debiasing strategies, like deference to industry customs, that might significantly favor tort defendants. It is quite possible that jurors are less vulnerable to the hindsight biases than were subjects in experimental settings. Several considerations support this hypothesis.

First, jury trials differ from research studies in several material respects. Jury trials are real and, thus, have more gravity. In addition, jury trials have richer factual development, greater accountability, and group deliberations. Each of these differences has the potential to reduce hindsight bias.

Second, judges and defense lawyers have the power to further reduce the bias. Although passive judicial warnings about the bias are unlikely to have a substantial effect, other judicial debiasing strategies are more promising. They include instructing the jurors early about the plaintiff's burden of proof, advising jurors not to discuss the case prior to its submission, returning to unanimous verdicts, bifurcating the trial of liability and damages, permitting jurors to take notes and submit questions, and requiring juries to discuss the facts of each case before they vote. Defense counsel can reduce the bias by emphasizing the risk of "Monday morning quarterbacking" and then offering evidence of alternative causal pathways through voir dire, opening statement, presentation of witnesses and summation. They can also introduce evidence of compliance with customary norms.

Although none of these debiasing mechanisms standing alone is likely to eliminate the hindsight biases entirely, and few have been tested directly, the use of several has the potential to reduce the bias enough to raise serious questions about the wisdom of adopting reforms that could significantly favor defendants.

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152. See Clayton P. Gillette & James E. Krier, *Risk, Courts, and Agencies*, 138 U. PA. L. REV. 1027, 1056 (1990).



### A. *The Distinguishing Characteristics of Actual Jury Trials*

Research studies are not jury trials. The differences may be material. Jury trials have greater gravity, more robust facts, greater accountability, and group deliberations. Each of these has the potential to minimize the presence of hindsight biases. Researchers know that the verbal reports given by study subjects in response to hypothetical scenarios do not always accurately reflect the way that these individuals behave in real world activities.<sup>153</sup> Jury deliberations may be a context in which this difference between simulation and real life is material.

#### 1. Gravity of the proceedings

Reaching a just verdict will be very important to the jurors. They will be exercising their civic responsibilities on a matter that directly affects the lives of their neighbors. In addition, the formality of the courthouse and its procedures will emphasize the seriousness of the undertaking. Fairness will matter. Although motivational strategies have had very limited success in the context of staged experiments, the Creyer-Ross and Campbell-Tesser studies, described above, suggest that people can reduce their susceptibility to their biases when it is important enough for them to do so.<sup>154</sup> This is consistent with other studies which have found that "people tend to listen to contrary evidence and to people unlike themselves when motivation is high to reach a correct answer or an answer they will need to defend to others."<sup>155</sup> As a result, hindsight bias may be easier for defense counsel to counteract in an actual trial than in an experimental setting. While this possibility should not be overestimated, it warrants further study.

#### 2. Accountability

Unlike research subjects, jurors are accountable for their decisions. Each juror's vote will be scrutinized not only by the other jurors, but also by the

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153. See Richard A. Winett, *Comment*, in REGULATORY POLICY AND THE SOCIAL SCIENCES 278, 280-81 (Roger G. Noll ed., 1985).

154. See *supra* text accompanying notes 59-60.

155. Michael J. Saks, *What Do Jury Experiments Tell Us About How Juries (Should) Make Decisions?*, 6 S. CAL. INTERDISC. L.J. 1, 30 (1997); see also Russell H. Fazio, *Motives for Social Comparison: The Construction-Validation Distinction*, 37 J. PERSONALITY & SOC. PSYCHOL. 1683, 1683 (1979) (noting that information comparisons occur more when the judgment is important); Arie W. Kruglanski & Ofra Mayseless, *Motivational Effects in the Social Comparison of Opinions*, 53 J. PERSONALITY & SOC. PSYCHOL. 834, 837 (1987) (finding that persons with a high fear of invalidity compare their views more with people who disagree).

judge and often by the juror's family and friends. Jurors also feel accountable to their communities.<sup>156</sup> This accountability distinguishes jury trials from research studies and has the potential to improve jury decisionmaking.

Significant experimental evidence suggests that people who feel personally accountable for their decisions put substantially more cognitive work into their decisions.<sup>157</sup> Cvetkovitch, for example, concluded that accountability produced less "intuitive" and more "analytic" modes of thought.<sup>158</sup> And Tetlock found that accountability caused his subjects to think about issues in a "more integratively complex" way.<sup>159</sup>

Accountability is most likely to have this effect if the accountable individual is unaware of the views of the person to whom she is accountable. The more well-defined the views of the person to whom she is accountable, the more likely she is simply to shift her position strategically to please her audience.<sup>160</sup> By contrast, people who are unaware of the position of the persons to whom they will answer tend to think more deeply about the decision itself. Under these circumstances, accountability "motivates people to consider arguments and evidence on both sides of the issue in order to prepare themselves for a wide variety of possible critical reactions to their views."<sup>161</sup>

An important insight emerges from these findings. Juries are likely to resist cognitive shortcuts to the extent that they feel accountable to others with unknown views.<sup>162</sup> Consequently, courts should continue to admonish jurors against discussion of the case prior to its submission. The less that jurors know about the views of the judge, other jurors, and the community, the less likely they are to choose their position for strategic reasons and the more likely they are to undertake a complex analysis of the two sides of the case.

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156. See Hans & Lofquist, *Jurors' Judgments*, *supra* note 114, at 108-09.

157. See Philip E. Tetlock, *Accountability and Complexity of Thought*, 45 J. PERSONALITY & SOC. PSYCHOL. 74 (1983) (reviewing the literature).

158. George Cvetkovitch, *Cognitive Accommodation, Language, and Social Responsibility*, 41 SOC. PSYCHOL. 149, 149-50 (1978) (reviewing the literature).

159. Tetlock, *supra* note 157, at 81.

160. See *id.* at 75, 80-82.

161. *Id.* at 75.

162. See *id.* at 82.

### 3. Robust Facts

The lean set of facts given to most study subjects may enhance the impact of the hindsight biases. Given a shortage of facts with which study subjects must make judgments about probabilities or reasonability, researchers have hypothesized that the subjects may place an undue emphasis on outcome information.<sup>163</sup> At a trial, by contrast, jurors will hear a much richer version of the facts, including exculpatory evidence from the defendant. The presentation of that evidence will give the jurors both a reason to rethink their initial inferences and the information with which to construct multiple causal pathways.<sup>164</sup>

### 4. Group Deliberations

Juries deliberate as a group. In the psychological research, by contrast, subjects have been interviewed individually. Group deliberations have the potential to reduce the impact of the hindsight biases.<sup>165</sup> Jurors have to explain their conclusions to their peers during deliberations and have to listen to the contrary thoughts of other jurors, including alternative theories about the negligence of the defendants. Thus, the group deliberations that occur in actual jury trials actively engage individual jurors in a “consider the opposite” debiasing exercise that resembles the most successful debiasing experiments.

At the same time, however, research on small group decisions suggests that these decisions typically reflect the views held by the majority at the onset of deliberations and that groups are prone to polarization toward extreme positions.<sup>166</sup> This tendency could magnify the impact of the

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163. See, e.g., Baron & Hershey, *supra* note 2, at 578; Richard Lempert, *Juries, Hindsight, and Punitive Damage Awards: Failures of a Social Science Case for Change*, 48 DEPAUL L. REV. 867, 877 (1999); Lowe & Reckers, *supra* note 32, at 404.

164. Researchers have found that extra information explaining a bad outcome increases the tendency to inflate estimates of a priori likelihood. See Nario & Branscombe, *supra* note 79, at 1248-49; Donald C. Pennington, *The British Fireman's Strike of 1977/78: An Investigation of Judgments in Foresight and Hindsight*, 20 BRIT. J. SOC. PSYCHOL. 89, 94-95 (1981). They have also found, however, that extra information explaining alternative outcomes reduces the bias. See Nario & Branscombe, *supra* note 79, at 1249.

165. See Rachlinski, *supra* note 6, at 587 n.76.

166. See Martin F. Kaplan, *Discussion Polarization Effects in a Modified Jury Decision Paradigm: Informational Influences*, 40 SOCIOLOGY 262 (1977) (concluding that the polarization is caused by information received in discussion rather than by conformity); MacCoun, *supra* note 45, at 160; David G. Myers & Helmut Lamm, *The Group Polarization Phenomenon*, 83 PSYCHOL. BULL. 602 (1976) (reviewing the literature); Saks, *supra* note 155, at 37 (stating that “group preference tends to be an exaggerated version of the direction toward which individual preferences were leaning”).

hindsight bias.<sup>167</sup> Fortunately, the data do not substantiate this fear. The few studies undertaken have found that deliberations by groups of three to five slightly reduce the hindsight bias.<sup>168</sup> Juries of twelve might do an even better job of uncovering and testing unwarranted assumptions.

Michael Saks' recent meta-analysis of the existing data on jury size concludes that "larger juries are more likely than smaller juries to . . . more accurately recall trial testimony, give more time to deliberation, hang more often, and appear more likely to reach 'correct' verdicts."<sup>169</sup>

Researchers have also found that the deliberative process changes outcomes in as many as thirty percent of civil cases.<sup>170</sup> Furthermore, group deliberations materially attenuate other cognitive biases, such as fundamental attribution error, consensus underutilization, and base-rate fallacy.<sup>171</sup> As a result, the jury's group deliberations have a debiasing potential that warrants serious study.

## 5. Implications

Jury trials differ from research studies in several material respects. Jury trials have higher stakes, richer factual development, greater accountability and group deliberations. Each of these differences has the potential to reduce hindsight bias.

### B. Judicial Debiasing Strategies

Judges have many tools with which to combat the hindsight biases. Although jury instructions about the biases are unlikely to have a significant effect standing alone, preliminary research suggests that several other

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167. See Rachlinski, *supra* note 6, at 587 n.76.

168. See Ed Bukszar & Terry Connolly, *Hindsight Bias and Strategic Choice: Some Problems in Learning from Experience*, 31 ACAD. MGMT. J. 628, 631 (1988); Dagmar Stahlberg et al., *We Knew It All Along: Hindsight Bias in Groups*, 63 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 46, 55-56 (1995).

169. Saks, *supra* note 155, at 14 (summarizing Michael J. Saks & Mollie Weighner Marti, *A Meta-Analysis of the Effects of Jury Size*, 21 L. & HUM. BEHAV. 451 (1997)); see also Ballew v. Georgia, 435 U.S. 223 (1978).

170. See Shari Seidman Diamond, *What Jurors Think: Expectations and Reactions of Citizens Who Serve as Jurors*, in VERDICT: ASSESSING THE CIVIL JURY SYSTEM, *supra* note 45, at 282, 297; cf. Saks, *supra* note 145, at 1237 n.318 (noting that "[a] group can bring deeper and more diverse intellectual resources to a conceptually complex task" than a judge can). And they have discovered that polarization is largely attributable to information learned during deliberations, not by a desire to conform. See Kaplan, *supra* note 166, at 262.

171. See Stahlberg et al., *supra* note 168, at 48 (reviewing the literature).

debiasing strategies are available. One promising tactic is to explain the burden of proof earlier in the trial. Another, noted above, is to remind jurors not to discuss the case until it is submitted to them.<sup>172</sup> In addition, courts can employ debiasing strategies such as requiring that jurors deliberate before they vote, bifurcating the trial of liability and damages, permitting jurors to take notes and ask questions, and insisting upon unanimous verdicts. In addition, judges could explain the hindsight bias to jurors and prepare them for defense counsel's explanation of alternative causal pathways.

### 1. Warnings About Hindsight Bias

Courts recognize the danger presented by post hoc decisionmaking.<sup>173</sup> As a result, they regularly employ jury instructions warning juries about it. Jurors are told that bad outcomes do not imply negligence,<sup>174</sup> that physicians do not guarantee good outcomes,<sup>175</sup> that negligence is not shown simply because in hindsight some other course of action would have been better,<sup>176</sup> and, in some states, that a mere error in judgment is not actionable.<sup>177</sup>

Regrettably, jury instructions of this kind are likely to have limited debiasing power.<sup>178</sup> In one famous study by Fischhoff, subjects were warned that "on previous occasions . . . we have found that [people] exaggerate how much they have known without being told the answer. . . . [P]lease do everything you can to avoid this bias."<sup>179</sup> This admonition did not significantly reduce the hindsight bias.

Even more disappointing are the results obtained by Kamin and Rachlinski.<sup>180</sup> They tested the debiasing power of jury instructions in a mock-trial setting. Subjects sat through an audio-tape and slide show

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172. See *supra* text accompanying note 162.

173. See, e.g., *Holbrook v. Fokes*, 393 S.E.2d 718, 719 (Ga. Ct. App. 1990); *Rooney v. Med. Ctr. Hosp. of Vt., Inc.*, 649 A.2d 756, 761 (Vt. 1994).

174. See, e.g., TENN. CODE ANN. § 29-26-115(d) (1998) (stating that "injury alone does not raise a presumption of the defendant's negligence"); *McCourt v. Abernathy*, 457 S.E.2d 603, 607 (S.C. 1995).

175. See, e.g., *Rooney*, 649 A.2d at 761.

176. See *Holbrook*, 393 S.E.2d at 719.

177. See, e.g., *Capolino v. N.Y. City Health & Hosps. Corp.*, 605 N.Y.S.2d 87, 88 (N.Y. App. Div. 1993); *Watson v. Hockett*, 727 P.2d 669, 673-74 (Wash. 1986). *But cf. Rooney*, 649 A.2d at 760 (criticizing these instructions).

178. See *supra* text accompanying notes 55-64. *But see* VALERIE P. HANS & NEIL VIDMAR, *JUDGING THE JURY*, 126 (1986) (describing studies which found that more intelligible instructions improved the ability of the jury to disregard improperly submitted evidence).

179. Fischhoff, *supra* note 55, at 354.

180. See Kamin & Rachlinski, *supra* note 3; *supra* text accompanying note 84.

presentation about a river accident. At the outset of the tape, some subjects heard the trial judge give the following instruction:

Deciding this case will eventually require you to make a determination about the probability that a flood like the described one will occur in any given year. Making such an assessment may be difficult since the accident has already occurred. When listening to the evidence, you should consider how the events which led up to the accident could have turned out differently.<sup>181</sup>

After the thirty minute slide show, they were given a final admonishment as follows:

Making a fair determination of probability may be difficult. As we all know, hindsight vision is always 20/20. Therefore it is extremely important that before you determine the probability of the outcome that did occur, you fully explore all other possible alternative outcomes which could have occurred. Please take a moment to think of all the ways in which the event in question may have happened differently or not at all.<sup>182</sup>

Despite the fact that these admonitions came from a mock judge, they did not reduce the hindsight bias.

Still, it is possible that proper jury instructions could have a beneficial effect when combined with similar efforts by defense counsel. Recall the success that Stallard and Worthington achieved by having defense counsel warn mock jurors about 20/20 hindsight.<sup>183</sup> Their success suggests that more clearly and forcefully worded jury instructions might improve upon the results obtained by Kamin and Rachlinski. Furthermore, well-crafted jury instructions could help prime the jury for subsequent debiasing efforts by defense counsel, thereby making those efforts more effective.<sup>184</sup>

## 2. The Burden of Proof

In the ordinary tort case, the plaintiff needs to prove her case by a preponderance of the evidence.<sup>185</sup> This assignment of the burden of proof to the plaintiff could theoretically offset some of the advantage conferred upon

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181. Kamin & Rachlinski, *supra* note 3, at 95.

182. *Id.* at 97.

183. See *supra* text accompanying notes 61-64.

184. See Wexler & Schopp, *supra* note 86, at 492.

185. See RESTATEMENT (SECOND) OF TORTS § 433B cmt. a (1965); KEETON ET AL., *supra* note 51, § 38, at 239.

the plaintiff by the hindsight biases.<sup>186</sup> However, its impact is likely to be modest. This burden of proof simply requires that the jury believe the plaintiff's story rather than the defendant's. As Rachlinski notes, it seems unlikely that this burden of proof will cause jurors to rethink their decision-tree in a way necessary to have a sizable impact on the hindsight biases.<sup>187</sup> To offset the biases completely, the plaintiff would have to be assigned an even higher burden of proof, such as clear and convincing evidence.<sup>188</sup> However, that change is likely to favor defendants unfairly.

Nevertheless, a modest alteration of existing practices does have genuine promise. Telling jurors about the burden of proof early in the trial induces them to take it more seriously. The authors of one study of criminal jury instructions found that pre-instructions produced more not guilty verdicts.<sup>189</sup> Another study found that pre-instructions doubled the time that the jury spend discussing the presumption of innocence and reasonable doubt.<sup>190</sup> A third found that juries who had received pre and post-evidence instructions were "more likely to defer their verdict decisions until after the [evidence]."<sup>191</sup> The implications for civil trials are obvious, but unstudied. Judges should begin to experiment with this debiasing tactic.

### 3. Unanimous Verdicts

Researchers have found that jurors deliberate differently when they know that their verdict need not be unanimous. Hastie, Penrod and Pennington found that deliberations were longer and more robust under a unanimity rule.<sup>192</sup> There was more discussion of the evidence and the law, including more correction of errors and more references to the standard of proof.

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186. See Rachlinski, *supra* note 6, at 605-06.

187. See *id.* at 606.

188. See *id.* at 606-07.

189. See Jonathan D. Casper, *Restructuring the Traditional Civil Jury: The Effects of Changes in Composition and Procedures*, in VERDICT: ASSESSING THE CIVIL JURY SYSTEM, *supra* note 45, at 414, 445, (citing Saul W. Kassin & Lawrence S. Wrightsman, *On the Requirements of Proof: The Timing of Judicial Instruction and Mock Juror Verdicts*, 37 J. PERSONALITY & SOC. PSYCHOL. 1877, 1877-87 (1979)).

190. See *id.* at 445 (citing Reid Hastie, Final Report to National Institute Law Enforcement and Criminal Justice (1983) (unpublished manuscript, Northwestern University)).

191. *Id.* at 446 (alteration in original) (quoting from a summary in Daniel H. Margolis et al., *Jury Comprehension in Complex Cases*, 1990 REP. OF THE SPECIAL COMM. OF THE A.B.A. SECTION. ON LITIG. 617 (1989) (reporting findings presented in Vicki Smith, *The Psychological and Legal Implications of Pretrial Instruction in the Law* (1988) (paper presented to Law & Society Meeting))).

192. See REID HASTIE ET AL., *INSIDE THE JURY* 173, 229 (1983).

Majorities grew more slowly and minority factions participated more.<sup>193</sup> In addition, large early majorities were less likely to prevail; with a unanimity rule, those majorities were more likely to reverse or hang.<sup>194</sup> Hans and Vidmar reached a similar conclusion: “[u]nanimity juries were more thorough in their evaluation of the evidence and the law; [and] jurors in the minority participated more actively in the discussion.”<sup>195</sup> This is precisely the kind of active deliberation process necessary to reorient jurors to a foresight perspective. Jurisdictions which have relaxed their unanimity requirements ought to rethink that decision.<sup>196</sup>

#### 4. Bifurcation of Liability and Damages

In 1989, Wexler and Schopp recommended that trials be bifurcated to reduce the impact of the hindsight biases.<sup>197</sup> Others have subsequently joined in this advice.<sup>198</sup> While it is not feasible to hide the existence of an injury from the jury, it is quite possible to delay proof of damages until a verdict on liability has been reached. Bifurcation of this kind would not eliminate the bias, since the jury will be aware that the plaintiff has been injured, but it might reduce the bias.<sup>199</sup> Delaying evidence of damages may reduce the bias by minimizing the extent to which the jury learns of the severity of the plaintiff's injuries. As explained above,<sup>200</sup> most studies have concluded that the biases are exacerbated by severe injuries.

The hope that bifurcation will reduce bias is consistent with the results of two studies addressing the implications of bifurcation for trial outcomes. Zeisel and Callahan reported in 1963 that defense verdicts rose from 34% to 56% when trials were bifurcated.<sup>201</sup> In addition, a 1992 simulation study by Horowitz and Bordens also found that plaintiffs won less often when liability and damages were bifurcated (62.5% v. 87.5%).<sup>202</sup>

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193. *See id.* at 173, 229.

194. *See id.* at 229.

195. HANS & VIDMAR, *supra* note 178, at 175; *see also* MacCoun, *supra* note 45, at 161.

196. *See* HASTIE ET AL., *supra* note 192, at 238.

197. *See* Wexler & Schopp, *supra* note 86, at 503.

198. *See* Arkes & Schipani, *supra* note 4, at 633; Jolls et al., *supra* note 5, at 1528-29. *But see* Rachlinski, *supra* note 6, at 605 (concluding that the debiasing potential is limited).

199. *See* NEIL VIDMAR, *MEDICAL MALPRACTICE AND THE AMERICAN JURY* 274 (1995) (describing a bifurcation proposal).

200. *See supra* text accompanying notes 45-49.

201. *See* Hans Zeisel & Thomas Callahan, *Split Trials and Time Saving: A Statistical Analysis*, 76 HARV. L. REV. 1606, 1612 tbl.3 (1963) (including in the denominator settlements during trial).

202. *See* Horowitz & Bordens, *supra* note 49, at 281-85. However, plaintiff's awards were higher. *See id.*



Bifurcation of liability and damages is not yet common in ordinary negligence actions.<sup>203</sup> However, it has the potential to make the process more fair. Consequently, bifurcation is a promising candidate for judicial experimentation.<sup>204</sup>

### 5. Instructing Jurors to Deliberate Before Voting

As discussed above,<sup>205</sup> group deliberations may reduce the impact of the hindsight biases on jury verdicts. In addition, as discussed below,<sup>206</sup> the arguments and evidence offered by the defendant will provide both a factual basis and an impetus for bias-reducing deliberations to occur. The value of those strategies could be lost if jurors vote on the issues before discussing the facts of the case. Early voting can lock jurors into positions and reduce the value of deliberation.<sup>207</sup> Thus, it seems reasonable to conclude that jurors should be instructed to discuss the evidence before committing themselves to a position.

### 6. Juror Note-Taking and Questioning

Several scholars have proposed that jurors be permitted to participate more actively in the trial by taking notes and submitting questions for witnesses.<sup>208</sup> Although the evidence, thus far, does not indicate that these reforms improve jury comprehension,<sup>209</sup> they could, nevertheless, reduce

203. See Louis Harris & Assocs., Inc., *Judges Opinions on Procedural Issues: A Survey of State and Federal Trial Judges Who Spend at Least Half Their Time on General Civil Cases*, 69 B.U. L. REV. 731, 744 tbls. 5.2 & 5.4 (1989).

204. See VIDMAR, *supra* note 199, at 275. The Federal Rules of Civil Procedure authorize bifurcated trials. FED. R. CIV. P. 42(b).

205. See *supra* text accompanying notes 165-71.

206. See *infra* text accompanying notes 211-25.

207. See HASTIE ET AL., *supra* note 192, at 230; Diamond, *supra* note 170, at 298 n.86 (citing JOHN GUNTHER, *THE JURY IN AMERICA* 85 (1988)); Lempert, *supra* note 125, at 220.

208. See, e.g., Stephen A. Saltzburg, *Improving the Quality of Jury Decisionmaking*, in VERDICT: ASSESSING THE CIVIL JURY SYSTEM, *supra* note 45, at 341, 358-60; H. Lee Sarokin & G. Thomas Munsterman, *Recent Innovations in Civil Jury Trial Procedures*, in VERDICT: ASSESSING THE CIVIL JURY SYSTEM, *supra* note 45, at 378, 386-88. Jurors are already permitted to take notes or ask questions in some jurisdictions. See, e.g., ARIZ. R. CIV. P. 39(p), 39(b)(10); *United States v. Riebold*, 557 F.2d 697, 706 (10th Cir. 1977); *United States v. Braverman*, 522 F.2d 218, 224 (7th Cir. 1975); *People v. Whitt*, 685 P.2d 1161, 1175 (Cal. 1984). *But see* DeBenedetto v. Goodyear Tire & Rubber Co., 754 F.2d 512, 516 (4th Cir. 1985) (warning against juror questioning).

209. See, e.g., Casper, *supra* note 189, at 444; Sarokin & Munsterman, *supra* note 208, at 388. However, the value of notes as a refresher has not yet been tested. See Larry Heuer & Steven

bias. If jurors were equipped with note pads and the opportunity to ask questions, defense counsel could then ask jurors to identify the different stories being told and to list the evidence in support of each. If jurors do so, they will be engaging in a debiasing exercise that is remarkably similar to the “consider the opposite” strategies used very successfully in experimental studies.<sup>210</sup>

### 7. Sizing up the Judicial Tools for Reducing Hindsight Bias

Although judicial admonitions to the jury to avoid hindsight bias are unlikely to be sufficient standing alone, several other judicial debiasing strategies are available. One rather modest change with surprising potential is to explain the burden of proof earlier in the trial. Courts have other options as well, such as explaining the hindsight bias to juries, advising the jury not to discuss the case until it is submitted to them, requiring that jurors deliberate before they vote, bifurcating the trial of liability and damages, permitting jurors to take notes and ask questions, and insisting upon unanimous verdicts. We currently know very little about the debiasing potential of these measures, but each of them warrants future study.

#### C. Debiasing by Defense Counsel

In the American adversary system, the most powerful tools for shaping the jury’s thinking are possessed by counsel for the parties. These tools include voir dire, opening statement, examination and presentation of witnesses and closing argument.<sup>211</sup> Through these tools, defense counsel can attempt to diffuse the hindsight biases by explaining why the plaintiff’s injury did not seem inevitable at the time and why it would be wrong to assume that bad outcomes have culpable explanations. By helping the jury to see the alternatives that seemed possible *ex ante* and by giving reasons why the defendant felt her choice was reasonable at the time, defense counsel can involve the jury in precisely the same debiasing exercises that have proven

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Penrod, *Increasing Jurors’ Participation in Trials: A Field Experiment with Jury Notetaking and Question Asking*, 12 L. & HUM. BEHAV. 231, 246 (1998).

210. In addition, providing mock jurors with access to transcripts during their deliberations materially favored defendants in complex cases. See Martin J. Bourgeois et al., *Effects of Technicality and Access to Trial Transcripts on Verdicts and Information Processing in a Civil Trial*, 19 PERSONALITY & SOC. PSYCHOL. BULL. 220, 224 (1993).

211. Voir dire is the first place where a defense attorney can frame the issues in the case. She does so by posing questions such as: “Is there anyone here who thinks that a doctor who faces a hard choice between two equally promising treatments should be liable if the outcome is bad?”

successful in experimental settings.<sup>212</sup> These tactics can help jurors open multiple causal pathways and, thus, move from an ex post to an ex ante perspective.

Although only a few studies have addressed these tactical issues,<sup>213</sup> the preliminary data is encouraging. In particular, a 1998 study by Merrie Jo Stallard and Debra Worthington supports the intuition that defense counsel will have a crucial role to play.<sup>214</sup> That study attempted to reduce the hindsight biases in a mock trial setting by incorporating a debiasing strategy within the defendant's closing argument. First, defense counsel reminded the jurors that the plaintiff wanted them to be a "Monday-morning quarterback."<sup>215</sup> Second, defense counsel ended her closing argument with an appeal not to use hindsight or second-guess the decisions of the defendants.<sup>216</sup> These tactics reduced the hindsight bias by over seventy percent.<sup>217</sup>

Other research indirectly supports the hypothesis that carefully phrased questions from defense counsel during voir dire and effective use of opening statements can reduce the hindsight biases. Wasserman, Lempert and Hastie, for example, found that the hindsight effect is virtually eliminated when a bad outcome is attributed to unforeseeable chance factors, such as an unanticipated earthquake or storm.<sup>218</sup> When explained this way, the outcome no longer seems inevitable. In appropriate cases, defense counsel will be able to make a similar contention in her opening statement. Counsel can inform the jury, for example, that the plaintiff's complications from back surgery were a matter of chance rather than inferior care. Providing the jury with this alternative story should help to reduce the risk that jurors will prematurely write a story that attributes responsibility to the defendant.

Another promising study by Lynn Hasher and her colleagues determined that subjects could retrieve their initial perspectives when informed that the "correct" answer provided to them by the researchers had been an error.<sup>219</sup>

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212. Expert witnesses can also assist in this education of the jury. See Jolls et al., *supra* note 5, at 1526-27 (describing the successful efforts of one expert witness); Wexler & Schopp, *supra* note 86, at 490-92.

213. See Lowe & Reckers, *supra* note 32, at 418 (debiasing power of judges and attorneys not yet known).

214. See Stallard & Worthington, *supra* note 61, at 682.

215. See *id.* at 675.

216. See *id.*

217. See *supra* note 64 and accompanying text.

218. See Wasserman et al., *supra* note 65, at 30.

219. See Lynn Hasher et al., *I Knew It All Along: Or, Did I?*, 20 J. VERBAL LEARNING & VERBAL BEHAV. 86, 93 (1981). Other studies have confirmed the ability to recall an original rating, although the success rates were less complete.

This information eliminated any hindsight effects attributable to the “correct” answer previously provided. Hasher and her colleagues’ findings indicate that jurors are able to retrieve their unbiased *ex ante* viewpoint.<sup>220</sup> In the adversarial context of tort litigation, of course, defense counsel and their expert witnesses employ a similar strategy by pointing out errors in the plaintiff’s explanation of the case. Although the jury may partially discount this strategy as partisan, they are, nonetheless, likely to be influenced by this reminder that the setting is adversarial and that they will hear two distinctly different causal stories.

Contrasted against these successes are the sobering results of the Kamin and Rachlinski study which presented subjects with a thirty minute mock-trial slide show.<sup>221</sup> In that study, defense counsel did a brief cross-examination of the plaintiff’s witnesses and offered their own witnesses.<sup>222</sup> In closing arguments, defense attorneys also asked the study subjects both “to imagine the possibility that the flood had not occurred, and [also] to consider the waste of hiring a bridge operator ‘who would sit in a booth every hour of every day in the winter to watch for floods.’”<sup>223</sup> These efforts did not reduce the impact of the hindsight bias.

There are a number of possible reasons why the tactics tested by Kamin and Rachlinski were not successful, including the abbreviated and simulated nature of the “trial,” the absence of *voir dire*, the lack of powerful evidence from the defendant’s witnesses, the failure to instruct the subjects on the burden of proof and the lack of group deliberation. Nevertheless, this study reminds us that we currently know too little about the debiasing potential of the trial process to offer more than promising hypotheses about the role of defense counsel. Nor do we know whether good lawyering by plaintiff’s counsel can preserve or even enhance the hindsight biases.<sup>224</sup> More research is badly needed. Still, it seems reasonable to speculate that well-trained defense counsel can counteract at least some of the hindsight bias by careful construction of an alternative causal pathway.<sup>225</sup>

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220. *See id.* at 94-95.

221. *See* Kamin & Rachlinski, *supra* note 3, at 94-97.

222. *See id.* at 96.

223. Kamin & Rachlinski, *supra* note 3, at 96. Another study found hindsight bias despite closing argument, but it did not attempt to discern how much worse the bias would have been without argument. *See* Jonathan D. Casper et al., *Juror Decision Making, Attitudes, and the Hindsight Bias*, 13 L. & HUM. BEHAV. 291, 294-96 (1989).

224. I am indebted to Jeffrey Rachlinski for this insight.

225. One other study deserves mention. Bourgeois and colleagues found that defense counsel could materially improve their success by reminding the jury about the plaintiff’s burden of proving deviation from the standard of care and by explaining complex cases in a less technical manner.

#### D. Evidence of Customary Practices

There is one final way in which defendants can protect themselves from hindsight bias. If the defendant has complied with the industry standard of care, defense counsel can introduce this fact into evidence. To the extent that customary standards have a debiasing effect (an assumption that has not yet been tested directly), much of that effect could potentially be achieved by allowing the jury to hear evidence of customary standards.

A recent study by Bourgeois, Horowitz, and Lee provides evidence that customary standards can be persuasive.<sup>226</sup> In that study, the subjects were presented with a mock trial of a medical malpractice case.<sup>227</sup> Initially, the jury strongly favored the plaintiff, who asked the counterfactual question "if only [my doctor] had ordered the mammogram."<sup>228</sup> However, this pro-plaintiff orientation was eliminated in a later experiment where the defense attorney informed the jury that a mammogram was not required by applicable medical standards.<sup>229</sup>

Customary standards are likely to be given considerable weight by the jury unless a good reason for distrusting them is proven. As a result, the goal of debiasing can be accomplished without adopting *ex ante* customary norms as the exclusive standard of care and thus insulating unjustified customs from scrutiny.

#### E. Summary of Debiasing Strategies

Several characteristics of real-world jury trials have the potential to dilute the impact of hindsight biases. These include the gravity of the proceedings, the accountability of the jury, the robustness of the facts, and the presence of group deliberations. In addition, judges can enhance the impact of their jury instructions by reminding the jury early and often about the burden of persuasion, admonishing them not to discuss the case prior to submission, and instructing jurors to discuss the facts before voting. Defense counsel, too, can make efforts to prevent the jury from greasing only one causal pathway. They can use *voir dire*, opening statement, expert witnesses, evidence of customary norms, and closing argument to keep two possibilities

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See Bourgeois et al., *supra* note 210, at 223, 225. They did not, however, specifically explore the impact on hindsight bias.

226. See MacCoun, *supra* note 45, at 155 (describing Bourgeois et al., *supra* note 210, at 220).

227. See *id.* at 155.

228. *Id.*

229. See *id.*

alive in the minds of the jurors. And judges could better prepare jurors for the debiasing efforts of defense counsel with explanatory jury instructions. Courts and legislatures should also consider experimenting with promising reforms such as re-instituting unanimous verdicts, bifurcating the trial of liability and damages, and permitting jurors to take notes and submit questions.

## VI. CONCLUSION

The hindsight biases pose a serious obstacle to fair post hoc decisionmaking. Their impact is insidious and resilient. Efforts to develop successful debiasing strategies are, therefore, crucial. The scholars who have brought these cognitive biases to the attention of the legal community have done us a great service.

In the much-needed search for debiasing strategies, however, lawmakers should not rush prematurely to cure these hindsight biases by enacting pro-defendant reforms such as changes in the standard of care. This Article has suggested three reasons for proceeding more cautiously.

First, the judicial process as a whole and the fact-finding process in particular are each complex processes that favor plaintiffs in some respects and defendants in others. Before any decision is made about the manner in which the hindsight biases should be addressed, lawmakers must take into consideration the attributes of the judicial process that already favor tort defendants. For example, many jurors distrust the motives of plaintiffs, few negligently injured persons file suit and some cognitive biases favor defendants. Those advantages may already offset any benefit conferred on plaintiffs by the hindsight biases. In addition, the General Theory of the Second Best reminds us that fixing some imperfections while tolerating others can actually make a situation worse, rather than better.

Second, there are good reasons to doubt that actual jurors are as vulnerable to the hindsight biases as study subjects. Actual jury trials have higher stakes, more robust facts, individual accountability, and group deliberations. In addition, judges and defense counsel can help to reduce the impact of the hindsight biases by encouraging the jurors to consider alternative causal pathways.

Third, a number of relatively even-handed debiasing reforms can and should be tested before resorting to defense-oriented reforms like deference to custom or administrative preemption. These strategies include bifurcating the trial of liability and damages, re-instituting unanimous verdicts and permitting jurors to take notes and ask questions. In addition, modest

changes in judicial communication with jurors could possibly reduce the biases further, including steps such as reminding the jury early and often about the burden of proof, explaining the hindsight bias, and admonishing jurors to discuss the facts before voting. Although the debiasing power of these strategies has yet to be tested, they possess sufficient potential to justify judicial experimentation. As courts experiment with these measures, they should encourage the research necessary to determine whether these debiasing strategies fulfill their promise.