

# GALILEO'S RETORT: PETER HUBER'S JUNK SCHOLARSHIP\*

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## INTRODUCTION

The vindication of Galileo Galilei came, at long last, on October 30, 1992.<sup>1</sup> The Roman Catholic Church finally cleared Galileo's name after condemning him in 1633 as the original "junk scientist" for his heresy in attempting to prove, and teach, his fervent and long-held view that the Earth travels around the Sun.<sup>2</sup> More than 350 years had elapsed, but after a thirteen-year study of the case, a special commission of the Pontifical Academy of Sciences "brought the pope a 'not guilty' finding for Galileo who . . . at age 69, was forced to repent by the Roman Inquisition and spent the last eight years of his life under house arrest."<sup>3</sup>

If Galileo had somehow been able to see his name cleared by the Church—say, if in his declining years he had devoted his creative energies to research in cryogenic engineering and had chosen himself as the first experimental subject, leaving instructions to be awakened upon his vindication—how shocked he would have been to learn that, despite his vindication by the Church, he remained controversial among certain secular figures. Indeed, Galileo would be surprised to learn that he played a starring role in Peter W. Huber's influential recent book about the American legal system. For on awakening, our Renaissance Rip Van Winkle would learn that he had already achieved something beyond simple vindication—revenge. What is "Galileo's Revenge"? Huber, widely regarded as the nation's preeminent "guru" of tort reform,<sup>4</sup> explains in the subtitle of his book that Galileo's Revenge is "Junk Science in the Courtroom."<sup>5</sup>

In the introduction to his book, Huber declares that, "[j]unk science is the mirror image of real science."<sup>6</sup> Huber lays out his thesis in a few sentences:

Junk science cuts across chemistry and pharmacology, medicine

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1. See William D. Montalbano, *Vatican Finds Galileo 'Not Guilty'; Pope Admits Error in Rejecting Theory*, WASH. POST, Nov. 1, 1992, at A40 (reporting that Roman Catholic church admitted that Galileo's condemnation was mistake).

2. See 19 NEW ENCYCLOPEDIA BRITANNICA 640-41 (Philip N. Goetz ed., 15th ed. 1988) ("Galileo became convinced early in life of the truth of the Copernican theory (i.e., that the planets revolve about the Sun)"). In 1609, Galileo, with the aid of the telescope, attempted to support his scientific beliefs. *Id.* at 640. He first ran into trouble with the Church for three letters venturing that the movement of sunspots across the face of the Sun proved that Copernicus was right. *Id.* His authorship in 1632 of *Dialogue Concerning the Two Chief World Systems—Ptolemaic and Copernican* led to his formal condemnation under the Inquisition. *Id.* at 641.

3. Montalbano, *supra* note 1, at A40.

4. Sandra Torry, *Walter Cronkite Video Helps Stir Up Debate over Tort Reform*, WASH. POST, Sept. 14, 1992, (Washington Business) at 5.

5. PETER W. HUBER, *GALILEO'S REVENGE: JUNK SCIENCE IN THE COURTROOM* (1991) [hereinafter HUBER, *GALILEO'S REVENGE*].

6. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 2.

and engineering . . . . It is a catalog of every conceivable kind of error: data dredging, wishful thinking, truculent dogmatism, and, now and again, outright fraud.

On the legal side, junk science is matched by what might be called liability science, a speculative theory that expects lawyers, judges, and juries to search for causes at the far fringes of science and beyond. The legal establishment has adjusted rules of evidence accordingly, so that almost any self-styled scientist, no matter how strange or iconoclastic his views, will be welcome to testify in court. The same scientific questions are litigated again and again, in one courtroom after the next, so that error is almost inevitable.

Junk science is impelled through our courts by a mix of opportunity and incentive. "Let-it-all-in" legal theory creates the opportunity. The incentive is money: the prospect that the Midas-like touch of a credulous jury will now and again transform scientific dust into gold.<sup>7</sup>

Huber pulls no punches in voicing the level of his concern. Huber's first major book, *Liability: The Legal Revolution and Its Consequences*, written in 1988, cataloged a long list of what Huber regards as the most outstanding flaws of the American tort liability system.<sup>8</sup> But Huber insists that one defect is paramount: "[A]mong all the many refractory problems of our modern liability system, junk science is the most insidious and the least noted."<sup>9</sup>

Huber claims to have uncovered an ongoing scheme against corporations, the public good, and science itself, carried out by seven co-conspirators: (1) liberal, ivory-tower law professors and social engineers, led by the dean of the Yale Law School, Guido Calabresi,<sup>10</sup> who care more about fairness than about legitimate science and economic efficiency and have propagated the idea that legal liability should be imposed on "deep pocket" corporations, regardless of traditional notions of causation and fault;<sup>11</sup> (2) injured consumers and workers looking for a quick buck, who bring suit on exaggerated grievances at the drop of a hat;<sup>12</sup> (3) rapacious attorneys who file

7. HUBER, GALILEO'S REVENGE, *supra* note 5, at 3.

8. PETER W. HUBER, *LIABILITY: THE LEGAL REVOLUTION AND ITS CONSEQUENCES* (1988) [hereinafter HUBER, *LIABILITY*].

9. HUBER, GALILEO'S REVENGE, *supra* note 5, at 4.

10. See HUBER, GALILEO'S REVENGE, *supra* note 5, at 11, 13 (citing Guido Calabresi's book *The Costs of Accidents: A Legal and Economic Analysis* as summary of "liability science" school of thought and referring to followers of theory as "Calabresians").

11. See HUBER, GALILEO'S REVENGE, *supra* note 5, at 11-13 (explaining that "liability science" developed as attempt to control costs of accidents by allocating them to "cheapest cost avoider," or party who was best suited to prevent accident).

12. HUBER, GALILEO'S REVENGE, *supra* note 5, at 41.

such baseless claims;<sup>13</sup> (4) out-of-the-mainstream scientists who prostitute themselves by proffering novel and ridiculous conjectures as if they were well-demonstrated scientific facts and well-accepted theories;<sup>14</sup> (5) trial judges who ought to act as vigilant gatekeepers, but who instead abdicate their duties and "let in all the evidence," that is, the patent nonsense offered by plaintiffs' paid expert witnesses;<sup>15</sup> (6) ignorant jurors who believe such alchemical drivel;<sup>16</sup> and (7) appellate judges who ignore the truth to uphold undeserved victories and unjustifiably generous awards won by plaintiffs.<sup>17</sup> In his first book on the American tort system, Huber advanced a similar thesis about the machinations of "the Founders" of this destructive system.<sup>18</sup> The point of *Galileo's Revenge: Junk Science in the Courtroom* is to highlight the "most insidious" aspect of this scheme—the use of "junk science."<sup>19</sup>

Why does "junk science," this insidious instrument of injustice, constitute "Galileo's Revenge"? Why would Galileo endorse the view of courtroom scientific testimony sketched out in chapter one of *Galileo's Revenge*, in which the plaintiffs' trial bar breeds "entrepreneurial experts" who—through a bizarre process of "unnatural selection"—develop "exorbitant plumage and distinctive songs" and ultimately present themselves as "Mr. Professional Witness, U.S.A."?<sup>20</sup> Why would Galileo be so happy with this state of affairs?

According to Huber, Galileo is enjoying a last laugh at the expense of millions of American citizens because his example of steadfast scientific dissent in the face of overwhelming orthodoxy serves as both inspiration to, and justification for, an army of "junk scientists."<sup>21</sup> Thus, Galileo may have suffered unjustly by being branded a heretic, but at least Galileo can enjoy sweet revenge, knowing that American corporations and consumers alike are suffer-

13. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 4.

14. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 19 (citing sources that refer to scientific experts as "hired guns" who "are like a bunch of hookers in June").

15. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 209-10.

16. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 4.

17. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 46-47.

18. See HUBER, *LIABILITY*, *supra* note 8, at 7 ("In a remarkably short time, the Founders [Huber's term for law professors like Dean William Prosser and Dean Guido Calabresi who advocated proconsumer legal reforms] completely recast a centuries-old body of law in an entirely new mold of their own design.").

19. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 4-5 (claiming that one urgent question facing society is "how to stop legions of case-hardened lawyers from attacking false causes, on behalf of false victims, on the basis of what nobody but a lawyer and his pocket expert call science").

20. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 19.

21. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 194 (asserting that plaintiffs' lawyers use figure of "mini-Galileos" to plead that novel scientists should not be ostracized because, like Galileo, they are at "frontiers of medicine or science").

ing at the hands of many junk scientists, each of whom claims to be "a new Galileo, a lonely, misunderstood genius who can see wonders that others neither discern or understand."<sup>22</sup> Ostracism by so-called mainstream scientists supposedly "inspires rather than discourages the new-age Galileos."<sup>23</sup> Thus, Huber describes Galileo as "the patron saint of all heretics."<sup>24</sup>

According to Huber, the reason that Galileo's example is so pernicious, and why his revenge is so destructive, is that the lesson of Galileo's life's work not only is no longer relevant for the modern world, but it actually offers a romantic but destructive model of individual genius laboring against convention. It is true that Galileo singlehandedly made astounding discoveries, was correct in many of his conclusions, and was wrongly denounced. Huber suggests, however, that it is highly unlikely for a single scientist working now to produce an original work that proves the prevailing consensus wrong.<sup>25</sup> As a result, Galileo is not only an artifact of a bygone age, but he is also a malignant model for present-day scientists. In his day, "Galileo had limited opportunity to belong to a larger community of scientists . . ."<sup>26</sup> Since 1660, however, "all science in the West has been built up through collegiality and consensus—and a concomitant decline in the role of the hermit scientist" who operated in the style of Galileo.<sup>27</sup> In this day and age, "[t]he vindication of good science in court" requires that we give "much less attention to the self-proclaimed new Galileos, and far more to the reticent stalwarts of the mainstream scientific community."<sup>28</sup>

Forced adherence to "mainstream" science is the ultimate theme and policy prescription of *Galileo's Revenge*. As Huber notes on his closing page, "The best test of certainty we have is good science . . . the science of consensus and peer review."<sup>29</sup> For these reasons, Huber believes that the example of Galileo should be banned from the courtroom, and until it is banned, that Galileo's Revenge will continue.

This synopsis of Huber's thesis, along with samples of the sarcastic and bombastic rhetoric contained in *Galileo's Revenge*, does not on

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22. HUBER, GALILEO'S REVENGE, *supra* note 5, at 16.

23. HUBER, GALILEO'S REVENGE, *supra* note 5, at 93.

24. HUBER, GALILEO'S REVENGE, *supra* note 5, at 194.

25. See HUBER, GALILEO'S REVENGE, *supra* note 5, at 196 (stating that modern science no longer progresses according to single theory but is "process of replication and verification, a search for consensus").

26. HUBER, GALILEO'S REVENGE, *supra* note 5, at 196.

27. HUBER, GALILEO'S REVENGE, *supra* note 5, at 196.

28. HUBER, GALILEO'S REVENGE, *supra* note 5, at 210.

29. HUBER, GALILEO'S REVENGE, *supra* note 5, at 228.

the surface reveal a serious work of legal research or thought. Ordinarily, such a book would not deserve extended analysis in a law review article. Indeed, even those closest to Huber do not appear to view him, on the issues of "tort reform" and "junk science," as a serious scholar. For example, Kenneth R. Foster, a University of Pennsylvania bioengineering professor who is Huber's co-editor for his forthcoming book, *Phantom Risks: Scientific Inference and the Law*,<sup>30</sup> recently noted that Huber is "'not an academic scholar . . . . He writes a good jeremiad. He's a polemicist.'" <sup>31</sup>

However, because both *Galileo's Revenge* and its author have received heavy publicity and have been treated by lawyers as well as laypeople as if they were part of legitimate scholarship on these issues, the book demands extended critical review. As explained in Part I of this Article, in recent years Huber has attained remarkable influence in policy debates over tort law in America. *Galileo's Revenge* and Huber's other writings have been widely cited by lawyers, lobbyists, and even former Vice President Dan Quayle,<sup>32</sup> and have been glowingly reviewed by lay writers. Even as a mere "polemicist" who writes nothing more than a "good jeremiad," Huber is clearly a figure to be reckoned with. Indeed, Huber's definition of "good science" as "the science of consensus and peer review" was the main explication of the scientific method relied on by Judge Alex Kozinski in his opinion for the U.S. Court of Appeals for the Ninth Circuit in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,<sup>33</sup> a case which served as the vehicle for the U.S. Supreme Court's first analysis of the expert testimony rules of the Federal Rules of Evidence.<sup>34</sup>

Parts II and III examine some of the more serious factual and legal flaws in *Galileo's Revenge*. The analysis of Huber's treatment of facts in Part II reveals a work that relies almost exclusively on anecdotal information and inflated rhetoric, misrepresents numerous as-

30. KENNETH R. FOSTER ET AL., *PHANTOM RISK: SCIENTIFIC INFERENCE AND THE LAW* (1993).

31. Milo Geyelin, *Tort Bar's Scourge: Star of Legal Reform Kindles Controversy but Collects Criticisms*, WALL ST. J., Oct. 16, 1992, at A1, A6 (quoting Kenneth R. Foster).

32. See *infra* notes 41-42 and accompanying text (noting that former Vice President Quayle relied on Huber's research and tort reform ideas).

33. 951 F.2d 1128 (9th Cir. 1991), cert. granted, 113 S. Ct. 320 (1992). Judge Kozinski quoted Huber's definition of good science—"the science of publication, replication, and verification, the science of consensus and peer review"—in support of his decision to disallow the plaintiffs' expert testimony. *Id.* at 1131. The author was counsel of record in the U.S. Supreme Court for the plaintiffs in *Daubert*.

34. The Supreme Court granted certiorari to resolve three issues: (1) whether the Federal Rules of Evidence dispense with the "general acceptance" test regarding expert testimony; (2) whether the lower courts can create their own exclusionary rules to replace or supplement those enacted by Congress; and (3) whether the lower courts may delegate authority for determining acceptability of scientific evidence to editors of peer-review journals. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 113 S. Ct. 320 (1992).

pects of its subject matter, and presents no considered, objective, or empirically based measure of the extent of the "junk science" problem. The legal analysis in Part III focuses on Huber's fictional rendering of the history of the "*Frye* rule" mandating "general acceptance" of novel scientific techniques used in some types of cases,<sup>35</sup> and on Huber's failure to take into account the constitutionally mandated and traditional role of the jury in resolving factual issues in American lawsuits. Collectively, Parts II and III support the conclusion that *Galileo's Revenge* is perfectly described with Huber's own words as "a catalog of every conceivable kind of error: data dredging, wishful thinking, truculent dogmatism, and, now and again, outright fraud."<sup>36</sup>

Finally, Part IV explores how a book with such deplorable factual and legal analysis could come to be so widely cited and widely praised in both the legal and lay press. The answer is perhaps the most interesting and surprising aspect of this Article. The success of *Galileo's Revenge*, and the prominence of Peter Huber on tort reform issues generally, are largely the product of an expensive, sustained, and well-coordinated public relations effort by the Manhattan Institute for Policy Research, the conservative "think tank" that employs Huber. The Institute is assisted in this task by a phalanx of corporations and insurance companies that support the work of Huber and other similar advocates in a quite understandable attempt to reduce their tort liability to individuals. Although there is certainly nothing illegitimate about such an effort, knowledge of the financial self-interest of those who support Huber and promote his work plainly demonstrates the need for close scrutiny of the content of, and motives for, Huber's writing. Unlike Galileo, Huber is not a scholar who has achieved prominence in this field by the sheer intellectual force of his ideas. Moreover, the story of Peter Huber's rise as a corporate "guru" on the twin issues of "civil justice reform" in general, and "junk science" in particular, provides an interesting window into the role of corporate-funded public relations campaigns in the ongoing policy debate over whether the American legal system needs radical reform.

Ultimately, this Article concludes that Galileo is not the villain depicted by Huber. If awakened from cryogenic sleep today, Galileo would not exult at the "revenge" Huber believes Galileo is wreaking through the power of his gripping, but supposedly irrelevant, exam-

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35. See *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir. 1923) (articulating rule that scientific technique must have acquired "general acceptance in the particular field in which it belongs" before it may serve as the basis of evidence).

36. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 3.

ple of scientific fortitude. Rather, Galileo would again resort to the scientific method, this time in the library rather than in the astronomical observatory, and would quickly become exasperated at the unsupported thesis of Huber's book, its numerous material misrepresentations and omissions, and its manipulative and evasive method of argument. Galileo would find Huber's criticism of purported errors of scholarship by others to be hypocritical, as Huber himself repeatedly violates the standards he holds out for the world at large. After full review, Galileo would not ratify the message of *Galileo's Revenge*. Finding little factual or legal support for Huber's junk science theory and little to fear from the "new-age Galileos" that figure as the subsidiary villains in Huber's book, Galileo would instead issue a strong retort to Huber—an analysis of Huber's book, one might imagine, much like the remainder of this Article.

### I. THE PROMINENCE OF PETER HUBER

Between Peter Huber's 1988 publication of his first book criticizing the American system of tort liability, *Liability: The Legal Revolution and Its Consequences*, and the beginning of the Clinton administration, Huber attained remarkable prominence in the tort reform debate. In particular, Huber proved to be quite influential in the Bush-Quayle administration,<sup>37</sup> more so than any other professional critic of the civil justice system. Indeed, Huber's employer, the Manhattan Institute for Policy Research,<sup>38</sup> boasted:

The Bush Administration's recent initiatives (witness Dan Quayle's [August, 1991] speech to the ABA [Convention] or President Bush's recent Executive Order on civil justice reform) arise directly out of the work of Senior Fellows Walter K. Olson and Peter W. Huber; both gentlemen have met extensively with the President's domestic policy staff.<sup>39</sup>

37. See *infra* notes 41-42 and accompanying text (noting former Vice President Quayle's reliance on Huber's figures and research).

38. See *infra* part IV (discussing power of Manhattan Institute and Huber's relationship with and reliance on it). Huber acknowledges that *Galileo's Revenge* "was written under the auspices of the Civil Justice Project of the Manhattan Institute for Policy Research," where Huber is a senior fellow. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 261. Those "auspices" are not merely honorific; they pay well. As a senior fellow, Huber is one of three professional employees of the Judicial Studies Program. Huber and the other two scholars, Walter Olson, another senior fellow, and Michael Horowitz, former general counsel of the Office of Management and Budget in the Reagan administration and former head of the Reagan administration's Tort Policy Working Group, are slated to split \$500,000 this year in salaries and benefits. MANHATTAN INST. FOR POLICY RESEARCH, JUDICIAL STUDIES PROGRAM: MISSION STATEMENT AND OVERVIEW; ANNUAL BUDGET AND LIST OF CONTRIBUTORS 5-6, 8 (Nov. 12, 1992) [hereinafter MISSION STATEMENT] (on file with *The American University Law Review*); Letter from Lawrence Mone, vice president, Research, The Manhattan Institute for Policy Research, to Supporters (Feb. 1993) (on file with *The American University Law Review*).

39. Fundraising Letter from William M.H. Hammett, President, Manhattan Institute for



Likewise, Huber himself noted that when former Vice President Dan Quayle excoriated lawyers for allegedly burdening the American economy with \$80 billion a year in "direct costs" and more than \$300 billion a year in "indirect" costs,<sup>40</sup> the Vice President derived his estimates from a single source: Huber's 1988 book, *Liability*.<sup>41</sup> Independent observers and the White House staff subsequently confirmed that Huber's analysis was of unmatched influence.<sup>42</sup>

Despite a brief spate of attention at the beginning of President Clinton's term in office accorded by the withdrawn nomination of Zoe E. Baird,<sup>43</sup> the new administration appears to provide less fertile ground for Huber's ideas.<sup>44</sup> Nonetheless, Huber's well-established position of influence in the policy debates of the day remains for the most part untouched. Indeed, it is fair to say that Huber's fame and influence in this area are unequalled. The *Wall Street Journal* described Huber as the "superstar" of the movement for "civil justice reform."<sup>45</sup> The *Washington Post* echoed that Huber and his Manhattan Institute colleague Walter Olson are "the intellectual gurus of the tort-reform movement."<sup>46</sup> One law professor's examination of Huber's theory of tort law described him as "the leading tort politician-academic of these times."<sup>47</sup>

Far from being limited to a single administration or to the execu-

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Policy Research, to Corporate Executives 1 (Nov. 25, 1991) [hereinafter Fundraising Letter] (on file with *The American University Law Review*).

40. See Dan Quayle, *Civil Justice Reform*, 41 AM. U. L. REV. 559, 560 (1992) (summarizing civil justice reform proposals as presented to American Bar Association and placing direct and indirect costs of liability system at \$80 and \$300 billion, respectively).

41. See Peter W. Huber, *Dan Quayle, the Lawyers, and the AIDS Babies*, FORBES, Oct. 28, 1991, at 194, 194 (recognizing that Vice President Quayle relied on figures from *Liability*).

42. See Geyelin, *supra* note 31, at A1 (stating that Vice President relied on Huber's research to buttress his tort reform proposal); Joe Queenan, *Birth of a Notion: How the Think Tank Industry Came up with an Issue That Dan Quayle Could Call His Own*, WASH. POST, Sept. 20, 1992, at C1 (reporting that Vice President Quayle's ideas on tort reform derived from Huber and Walter Olson, both of Manhattan Institute); *Uncommon Law*, NAT'L REV., Sept. 9, 1991, at 14, 14 ("Vice President [Quayle] drew heavily upon the scholarship of Peter Huber, Walter Olson, and others in recommending sweeping changes in our civil-justice system.").

43. See Michael Isikoff, *Baird Backed Quayle Plan, Panel Told*, WASH. POST, Jan. 8, 1993, at A6 (reporting that Baird had, as part of her corporate general counsel employment, previously endorsed Quayle's proposals for national tort reform). As general counsel and senior vice president of the Aetna Life Insurance & Casualty Co., Zoe Baird proposed the creation of the Office of Judicial Impact Assessment to instigate tort reform legislation. *Id.* At that time, she not only praised Quayle's proposals, but served briefly on a Council on Competitiveness working group chaired by former Solicitor General Kenneth Starr that helped develop the proposals. *Id.*

44. See Milo Geyelin, *Product-Liability Groups Take Up Arms*, WALL ST. J., Jan. 29, 1993, at B1 (suggesting that tort reform proposals will not receive high priority in Clinton administration).

45. Geyelin, *supra* note 31, at A1.

46. Torrey, *supra* note 4, at 5.

47. Peter A. Bell, *Analyzing Tort Law: The Flawed Promise of Neocontract*, 74 MINN. L. REV. 1177, 1187 (1990). According to Professor Bell, in the last half of the 1980s, "a major new kind of analysis of the proper role of torts has come to the fore, an analysis catapulted to new

tive branch of the Federal Government, Huber's fame and influence have reached many arenas, ranging from the federal judiciary<sup>48</sup> to law schools<sup>49</sup> and the popular press.<sup>50</sup> As for Congress, according to Victor E. Schwartz, the nation's most prominent tort-reform lobbyist,<sup>51</sup> Huber's first book has had an unparalleled "influence on

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heights of prominence, and perhaps popularity, within the last year through the writing and peregrinations of Peter Huber." *Id.* at 1178. Professor Bell further noted:

Huber has traveled far and wide since the publication of [*Liability*], engaging in debates and explaining his theses. Memoranda from the Manhattan Institute discuss his extensive speaking tours, provide glowing reviews of his writings and even offer for sale audio tapes of Huber's performances on radio talk shows. At recent scholarly meetings, law professors from Yale, Stanford and the University of Houston have spoken of the sensation created by recent Huber visits. An entire panel at the annual meeting of the American Political Science Association . . . in September, 1989 was devoted to [*Liability*], with the author there to confront his "critics." Huber has been featured in front-page *New York Times* discussions of risk and public policy. He regularly writes a column in *Forbes* magazine. In short, to a much greater degree than any other writer about tort-related issues, Huber is a visible public figure.

*Id.* at 1178 n.7. Another law review writer has noted that "Peter Huber has emerged as one of the leading critics of the tort system in general, and of the handling of scientific issues in court in particular." Richard L. Marcus, *Discovery Along the Litigation/Science Interface*, 57 *BROOK. L. REV.* 381, 381 n.2 (1991).

48. Judge Alex Kozinski of the U.S. Court of Appeals for the Ninth Circuit has described Huber as "a man of clear vision and extraordinary talent" who is "destined to become a major player" in the movement to restore right thinking to the law of torts. Alex Kozinski, *Torts Are No Piece of Cake*, WALL ST. J., Oct. 6, 1988, at A16. Judge Kozinski has called *Liability* required reading "for anyone who wears a judicial robe." *Id.* In one judicial opinion, Kozinski cited *Liability* in support of the proposition that "commercial enterprises [cannot] be expected to flourish in a legal atmosphere where every move, every innovation, every business decision must be hedged against the risk of exotic new causes of action and incalculable damages." *Oki Am., Inc. v. Microtech Int'l, Inc.*, 872 F.2d 312, 316 (9th Cir. 1989) (Kozinski, J., concurring). As noted earlier, *Galileo's Revenge* played the central role in the theory of "good science" adopted by Kozinski in his opinion in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 951 F.2d 1128, 1131 (9th Cir. 1991) (relying on Huber's definition that good science is "the science of publication, replication, and verification, the science of consensus and peer review"), *cert. granted*, 113 S. Ct. 320 (1992).

U.S. Supreme Court Justice Sandra Day O'Connor, for whom Huber served as a law clerk, has cited him in two opinions: *Browning-Ferris Indus., Inc. v. Kelco Disposal, Inc.*, 492 U.S. 257, 282 (1989) (O'Connor, J., concurring in part and dissenting in part) (citing *Liability* in support of fact that designers of airplanes and motor vehicles cease work on projects out of fear of punitive damages), and *Pacific Mut. Life Ins. Co. v. Haslip*, 111 S. Ct. 1032, 1059 (1991) (O'Connor, J., dissenting) (quoting *Liability* as charging that "open-ended" punitive damages instructions "stroke . . . the vindictive or sympathetic passions of juries").

49. See MANHATTAN INST. FOR POLICY RESEARCH, TEN YEAR REVIEW: 1980-1989, at 14 (1990) [hereinafter TEN YEAR REVIEW] (stating that since its publication in 1988, *Liability* has become "assigned reading at many law schools" and "Huber has visited over three dozen law schools to lecture and debate"); MANHATTAN INST. FOR POLICY RESEARCH, SUMMER UPDATE 1 (1991) (noting that "the final exam from the first-year torts class at Yale [Law School]. . . asked students to comment on a passage from [that] book").

50. See *infra* notes 55-60 and accompanying text (discussing press treatment of Huber's work).

51. Victor E. Schwartz, long regarded as the tort reform movement's chief lobbyist and spokesperson on Capitol Hill, "single-handedly engineered an entire subculture of the lobbying industry," serving as founder of the Product Liability Alliance and "midwife for the Product Liability Information Bureau, the Coalition for Uniform Product Liability Laws, and the Product Liability Coordinating Committee." Sheila Kaplan, *These Perennials Are Lobbyists' Cash Cows*, LEGAL TIMES, Feb. 5, 1990, at S3, S3-4.

how people think . . . . Go in any policymaker's office—Democratic or Republican—and they had his book.'"<sup>52</sup> Huber has appeared often before the Senate Commerce Committee during the past two years, promoting federal limits on manufacturers' liability.<sup>53</sup> In May 1992, Huber, using excerpts from *Galileo's Revenge* as support, testified before top Republicans as they considered legal-reform campaign planks.<sup>54</sup>

The lay press, for the most part, has seen Huber as an unalloyed precious metal.<sup>55</sup> Much of the praise for Huber has been wholly without qualification or even hesitation, and, as will be demonstrated below, remarkably without any effort to check the accuracy of Huber's factual assertions.<sup>56</sup> Huber is routinely referred to as an estimable authority in scores of editorials, op-ed pieces, news stories, and business publications.<sup>57</sup> Although some lay reviewers have criticized, or at least acknowledged, Huber's Manichean, all-black/all-white vision of expert witnesses and their testimony, almost every critic has apparently taken for granted that Huber's factual as-

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52. See Andrew Blum, *Debate Still Rages on Torts*, NAT'L L.J., Nov. 16, 1992, at 1, 35 (quoting pro-tort reform lobbyist Victor E. Schwartz).

53. Geyelin, *supra* note 31, at A1.

54. Geyelin, *supra* note 31, at A1.

55. For example, *Galileo's Revenge* is described as a "rare" book that is uniquely "fair, important and original," Michael Fomento, *Greedy Lawyers and "Expert" Witnesses*, WALL ST. J., Oct. 9, 1992, at A13; as a "witty and readable . . . book [that] should be read by every lawyer—regardless of his [or her] position on the controversy—seeking a better understanding of the tort system's abuses and the need for reform," Norman L. Greene, *The Lawyer's Bookshelf*, N.Y. L.J., Dec. 23, 1991, at 2; as a book that probes issues of science and the law "with a delightful blend of humour and logic," Barry Kay, *With Everything To Gain*, INDEPENDENT, May 16, 1992, at 28, 28; and as a book that "brilliantly . . . piles case upon case, fact upon fact, to show that junk science has become a plague on our legal system," Robert L. Spaeth, "Junk Science" Has Become a Plague in the System, MINNEAPOLIS STAR-TRIB., May 3, 1992, at 12F; see also Charlotte Allen, "Junk Science" Prosecuted for Malicious Wounding of Justice System, WASH. TIMES, Sept. 22, 1991, at B8 (stating that *Galileo's Revenge* should be required reading for every jurist); Elizabeth Rosenthal, *Tarnished Testimony*, N.Y. TIMES, Oct. 13, 1991, § 7, at 23 (opining that *Galileo's Revenge* is perceptive combination of legal history, psychology, and sociology).

56. For an analysis of Huber's use of factual data, see *infra*, part II.

57. See, e.g., *And Justice for Some*, WASH. TIMES, Feb. 11, 1992, at F2; Doug Bandow, *Legal Alchemy in America*, FORTUNE, Oct. 7, 1991, at 184, 184; Peter Brimelow & Leslie Spencer, *The Plaintiff Attorneys' Great Honey Rush*, FORBES, Oct. 16, 1989, at 197, 197; L. Gordon Crovitz & Stephen Bates, *How Law Destroys Order*, NAT'L REV., Feb. 11, 1991, at 28, 28; Henry Fairlie, *Fear of Living: America's Morbid Aversion to Risk*, NEW REPUBLIC, Jan. 23, 1989, at 14, 14; Kenneth Jost, *Weird Science*, A.B.A. J., Oct. 1991, at 104, 104; Tex Lezar, *Texans Are Stuck with Huge, Hidden Legal Costs*, HOUS. CHRON., Mar. 11, 1992, at 55; W. John Moore, *Costly Justice*, NAT'L J., July 22, 1989, at 1898, 1898; Peter Passell, *Economic Watch; Making a Risky Life Bearable: Better Data, Clearer Choices*, N.Y. TIMES, May 9, 1989, at A1; Joe Queenan, *Birth of a Notion: How the Think Industry Came Up with an Issue That Dan Quayle Could Call His Own*, WASH. POST, Sept. 20, 1992, at C1; Paul C. Roberts, *It's Time To Scrap America's Postwar Game Plan*, BUS. WK., Apr. 9, 1990, at 14, 14; Ed Rubenstein, *Killer Regulations: Economic Costs of Consumer Protection Regulations*, NAT'L REV., Nov. 24, 1989, at 20, 20; David Warsh, *Economic Principals; No-Fault: We Hardly Knew You*, BOSTON GLOBE, Oct. 2, 1988, at A1; Pat Widder, *Smoke Signals: Baby Boomers Are Growing Less Tolerant of Risks*, CHI. TRIB., June 28, 1992, at C1.

sions are accurate.<sup>58</sup>

The lay criticisms of Huber's work that do exist tend to focus far more on Huber's hyperbolic style of advocacy than on the quality of his research and the level of factual support for his conclusions.<sup>59</sup> Only on rare occasions has any reviewer noted the one-sided nature of Huber's critique of the civil justice system.<sup>60</sup>

With hardly an exception, legal scholars also have given Huber a free ride, evidently regarding him as so established a scholar that his credentials entitle his works to be routinely cited in the vein of

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58. Thus, a recent review opined:

Huber is very convincing when he describes the histories and techniques of lawyers who exploited these cases [i.e., injuries caused by sudden acceleration of Audi 5000 automobiles and birth defects caused by the prescription anti-nausea drug Bendectin]. Their "experts" scrupulously avoid using all scientific evidence such as quantifiable data, controlled tests or publication in peer-reviewed journals. [Huber] is less convincing when he discusses other products, for instance, the Dalkon Shield, an intrauterine birth control device that turned out to be an incubator for bacteria. . . . It is too bad that Huber does not dwell on instances where products—like asbestos, like the Dalkon Shield—have been truly injurious, and the courts a venue for justice. All issues are not black and white.

Bettyann Kevles, *Driving Junk Science from the Courts*, L.A. TIMES, Sept. 17, 1991, at E10. The reviewer conducted no independent scrutiny of Huber's presentation of the "facts" surrounding the Audi 5000 and Bendectin litigation. *Id.*

59. One commentator observed that Huber's "clever, rather high-toned expose [of 'junk science'] . . . succumbs to repetitive rhetoric. Huber's hubris betrays him. He refuses to talk straight." Ann G. Sjoerdsma, *The Pseudoscience Bamboozlers*, S.F. CHRON., Nov. 3, 1991, (Sunday Review) at 9. Another reviewer opined that although *Galileo's Revenge* is a "ferocious and highly readable book . . . Huber . . . weakens his case by slipping into easy sarcasm—a temptation that's understandable, given the chicanery of his villains, but nonetheless distracting." Louise Kennedy, *Throwing 'Junk Science' out of Court*, BOSTON GLOBE, Sept. 27, 1991, at 30. Still another commentator, this time with respect to *Liability*, although "impressed by Huber's attention to the real workings of the tort system and his willingness to explain and explore some of the more complex and elusive legal concepts that play such a crucial role in the courts," nonetheless complained that "Huber is a missionary, not a scholar" and that his "overheated rhetoric is so full of sarcasm and outright rancor that 'Liability' has the tone of a propaganda tract rather than a considered attempt to persuade." Jonathan Kirsch, *Who's To Blame for High Liability Cost?*, L.A. TIMES, Sept. 21, 1988, § 5, at 4.

60. For example, one commentator observed:

Huber has written an angry, informed, entertaining tirade against pseudoscientific experts-for-hire and the credulous judges, greedy attorneys, and know-nothing juries who allow them to ply their trade . . . . Huber documents junk science as practiced by experts for plaintiffs but never questions the science ginned up by defendants. He attacks plaintiffs' attorneys as flamboyant, money-grubbing shysters who care little for their clients. But he fails to note that once upon a time, many consumers had little recourse in the courts. They were beaten down by big corporations that could hire armies of experts to swear that their chemicals and their products were not dangerous. . . . [Huber's] anti-Nader sentiments seem to blind him to the fact that reform must apply equally to large corporations, which still have the resources to outexpert the most affluent of public-interest groups.

William Booth, *Book Review—Galileo's Revenge: Junk Science in the Courtroom*, WASH. MONTHLY, Sept. 1991, at 57, 57-59; see also Kennedy, *supra* note 59, at 30 (noting that "there are moments when [Huber's] faith in science seems as risky as the superstitions and pseudo-scientific fads he so effectively debunks"); Kirsch, *supra* note 59, at 4 (asserting that "Huber undermines his own credibility when he blames virtually all of the profound institutional changes in tort law on a sinister conspiracy of lawyers and judges").

*Corbin on Contracts* or *Wigmore on Evidence*, rather than carefully examined.<sup>61</sup> Those few academics who have taken their obligations as reviewers seriously have a decidedly different assessment of Huber's scholarship.<sup>62</sup> Huber's views have been particularly influential in the debate on "junk science," a topic, as well as a phrase, that Huber almost singlehandedly popularized.<sup>63</sup>

As to the merit underlying this broad acceptance of Huber's work, notwithstanding the seventeenth-century Roman Catholic Church's misplaced confidence in the Ptolemaic view of the universe, the con-

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61. See, e.g., Peter W. Sperlich, *The Liability of Junk and the Junk of Liability: Evidentiary Misdeeds in the Courts*, 75 JUDICATURE 273, 281 (1992) (noting that *Galileo's Revenge* "contributes significantly to liability jurisprudence and the law/science interaction debate," that "[i]ts data and arguments are germane to the work of judges, legal scholars, lawmakers, and forensic scientists," and that Huber's "graceful" writing "should be read by all who have an interest in our courts."); John F. Baughman, 1992 *Survey of Books Relating to the Law*, 90 MICH. L. REV. 1614, 1617 (1992) (reviewing *Galileo's Revenge*) ("Huber mercilessly and effectively describes the pernicious effect of junk science on the courtroom"); Book Note, 92 COLUM. L. REV. 247, 248 (1992) (reviewing *Galileo's Revenge*) ("[Huber's] anecdotal, provocative style is engrossing, and his revelations are astonishing."); Book Note, *Rebel Without a Cause*, 105 HARV. L. REV. 935, 936, 940 (1992) (reviewing *Galileo's Revenge*) ("Chapter by chapter, Huber documents how . . . permissiveness has obfuscated the issue of causation in tort cases. . . . Regardless of whether he overstates the present danger or whether his Frye solution risks undercompensating valid claims, [Huber] credibly advances the debate on regulating expert testimony."). Many law review articles treat Huber's works as essential, landmark works in the area of appropriate tort liability policy. See, e.g., Kevin M. Clermont & Theodore Eisenberg, *Trial by Jury or Judge: Transcending Empiricism*, 77 CORNELL L. REV. 1124, 1125 n.4, 1127 nn.8-9 (1992); William Powers, Jr., *A Modest Proposal To Abandon Strict Products Liability*, 1991 U. ILL. L. REV. 639, 642 n.8 (1991); Thomas C. Galligan, Jr., *Strict Liability in Action: The Truncated Learned Hand Formula*, 52 LA. L. REV. 323, 344 n.101 (1991); Mark F. Grady, *Why Are People Negligent? Technology, Nondurable Precautions, and the Medical Malpractice Explosion*, 82 NW. U. L. REV. 293, 297 n.10 (1988); Michael D. Green, *Expert Witnesses and Sufficiency of Evidence in Toxic Substances Litigation: The Legacy of Agent Orange and Bendectin Litigation*, 86 NW. U. L. REV. 643, 669-70 nn.125-26 (1992); Jon D. Hanson & Kyle D. Logue, *The First-Party Insurance Externality: An Economic Justification for Enterprise Liability*, 76 CORNELL L. REV. 129, 134 n.26 (1990); Jason S. Johnston, *Uncertainty, Chaos, and the Torts Process: An Economic Analysis of Legal Form*, 76 CORNELL L. REV. 340, 344 n.8 (1991).

62. For a discussion of negative academic appraisals of Huber's books, see *infra* part II. Even the most conscientious of critics are seemingly overwhelmed by the sheer amount of misrepresentation and distortion contained in *Galileo's Revenge*. Thus, Professor Lewin, in a recent review of *Galileo's Revenge*, notes that "Huber fails to prove his contentions about the extent and origins of the problem of junk science because his own methodology is little better than that of the charlatans he criticizes." Jeff L. Lewin, *Book Review: Calabresi's Revenge? Junk Science in the Work of Peter Huber*, 21 HOFSTRA L. REV. 183, 186 (1993). But Lewin nonetheless falls victim to the superficial plausibility of a number of Huber's case studies. Thus, Lewin notes that Huber "is probably correct" in his scathing attack on the "junk science" supposedly involved in litigation involving spermicides, Bendectin, and cerebral palsy, *see id.* at 202; however, exhaustive scrutiny of each factual assertion made by Huber on these subjects (but not undertaken by Lewin) reveals that Huber's critiques are unfounded.

63. See *supra* notes 48-57 and accompanying text (recounting immense positive reception of Huber's work). Huber's employer, the Manhattan Institute, boasted in a recent memorandum to supporters that Huber has "played a key role in giving junk science testimony the public attention it deserves, . . . and the Supreme Court review that is now pending" in *Daubert*. "Indeed," the memorandum noted, "the very term 'junk science' has been popularized largely through Peter Huber's book, *Galileo's Revenge*." Memorandum from Michael J. Horowitz, Director, Judicial Studies Program, Manhattan Institute, to Colleagues and Associates (Jan. 19, 1993) (on file with *The American University Law Review*).

sensus views of things is often right. But as Galileo and countless others have demonstrated, consensus views are occasionally or even frequently wrong. We need not look to the legion of examples drawn from the history of science to demonstrate this point;<sup>64</sup> we need only do what the many peers of Huber who have reviewed his books have evidently not done: critically analyze his factual and legal prescriptions. The next two parts of this Article reveal that, based on such critical review, the popular acclaim enjoyed by *Galileo's Revenge* does not arise from thorough research and accurate analysis, for neither is evident in Huber's book.

## II. HUBER'S DUBIOUS USE OF "FACTS" IN *Galileo's Revenge*

Unless we are all raging hypocrites, facts should be paramount in a process that repeatedly swears fealty to the truth and nothing but the truth. . . . The rule of law depends on both lucid rules and accurate facts.<sup>65</sup>

For Peter Huber, "[t]he 'rule of law' is a completely empty promise if key facts are infinitely plastic, if there is no external and immutable reality."<sup>66</sup> "The rule of law is indeed a grand thing, but not half so grand as the rule of fact."<sup>67</sup> The question naturally arises: How well does *Galileo's Revenge* measure up by Huber's own standards? One who demands that others meet high standards for precision and probity in their research and writing has a duty to abide by those same standards, as Huber himself insists.<sup>68</sup> And a writer of

64. See generally THOMAS S. KUHN, *THE STRUCTURE OF SCIENTIFIC REVOLUTIONS* 6 (2d ed. 1970) (enumerating scientific revolutions brought about by Copernicus, Newton, Lavoisier, and Einstein as examples of situations in which time-honored theories were rejected in favor of new theories).

65. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 226.

66. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 219.

67. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 225. Huber is quite, and properly, unrelenting on this overriding theme of factual accuracy. Indeed, there is no message in *Galileo's Revenge* about which he is more insistent, going so far as to entitle Part III of the book's three parts: "The Rule of Fact." *Id.* at 169. For example, Huber states:

We want cases to be tried on their own facts, but we do not want facts themselves reduced to transitory, manipulable sound bites with no objective reality. The individual trial must somehow fit into a larger coherence, or all we have is despotism sold by the drink.

. . . But anyone who believes in the possibility of neutral law . . . must at the same time believe in the existence of objective fact, which ultimately means positive science.

. . . Shaggy edges notwithstanding, we need similar distinctions—with straightforward terminology to match—between fact and fantasy. Claims dressed up in the form of serious science but lacking serious empirical and conceptual credentials will continue to be junk science.

. . . In the end, getting facts right is a fundamental requirement of morality. *Id.* at 218-19, 223, 227.

68. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 200-01 (excoriating lawyers and expert witnesses who are unwilling to follow the standards they impose on others by noting:

Huber's abilities is certainly capable of meeting these high standards.

Huber is a brilliant engineering Ph.D who served as an instructor at the Massachusetts Institute of Technology (MIT), graduated summa cum laude from Harvard Law School, and clerked on the U.S. Supreme Court.<sup>69</sup> Among other professional endeavors unrelated to tort reform, in the mid-1980s Huber worked as a technical consultant to the Department of Justice, compiling the voluminous, heavily documented "Huber Report" that the Department and the federal courts relied on in significantly deregulating the nation's telecommunications infrastructure.<sup>70</sup> Huber is surely able to meet high standards of accuracy and thoroughness in scholarship when he chooses to do so.

In order to test the validity of Huber's contention that junk science is running an epidemic course in the nation's courts, and that it poses "the most insidious" of "the many refractory problems of our modern liability system,"<sup>71</sup> it would appear appropriate to judge Huber's scholarship by the same standards he lays down for the conduct of science. Huber says that "real science" can be distinguished from "junk science" by asking the following questions. First, does a putative scientist base her conclusions on demonstrable facts or does she just repeat her theory by way of endless illustration? Put differently, does the scientist place fact upon fact, like brick upon brick, to erect a solid wall of argument, or does she merely raise castles of conjecture in the air?<sup>72</sup> Second, how accurate and relia-

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"[I]f people who really design cars or deliver babies are to be judged by professional standards in court, those who accuse them must be held to similar account. If the law is capable of holding defendants to professional standards, it is capable of holding witnesses to the same.").

69. See Geyelin, *supra* note 31, at A6 (stating that Huber earned both master's and doctoral degrees at MIT, received invitation to remain and teach, simultaneously attended Harvard Law School, and eventually clerked for Justice O'Connor).

70. See PETER W. HUBER, *THE GEODESIC NETWORK: 1987 REPORT ON COMPETITION IN THE TELEPHONE INDUSTRY* (1987); see also *United States v. Western Elec. Co.*, 900 F.2d 283, 291 (D.C. Cir.) (stating that Department of Justice relied on Huber Report as basis for recommending deregulation of telecommunications industry), *cert. denied*, 498 U.S. 911 (1990). Indeed, Huber's abilities in the fields of engineering and law have made him a leading figure within the telecommunications area. In 1992, Huber co-authored the first full treatise on federal telecommunications law. MICHAEL K. KELLOGG, JOHN THORNE & PETER HUBER, *FEDERAL TELECOMMUNICATIONS LAW* (1992).

71. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 4.

72. Huber posits:

Junk science is the mirror image of real science, with much of the same form but none of the same substance. . . . Take the serious sciences of allergy [sic] and immunology, brush away the detail and rigor, and you have the junk science of clinical ecology. . . . Junk science cuts across chemistry and pharmacology, medicine and engineering. It is a hodgepodge of biased data, spurious inference, and logical legerdemain, patched together by researchers whose enthusiasm for discovery and diagnosis far outstrips their skill.

ble—or how distorted—are the facts that she uses?<sup>73</sup> And third, how willing is the scientist to present all sides of a controversy and to acknowledge inconvenient facts that tend to disprove his hypotheses, i.e., to tell the complete story—"the truth, the whole truth, and nothing but the truth"<sup>74</sup>—rather than including just those facts that confirm his theories?<sup>75</sup> As the remainder of Part II demonstrates, the core of Huber's book, which presents his empirical evidence of the junk science problem, fails these three tests.

*A. The Endless Repetition of Anecdotal Horror Stories  
and Conclusory Assertions, Without Empirical Substantiation*

*Galileo's Revenge* fails Huber's first test, which is citation to, and reliance on, verifiable, falsifiable factual data. The conclusion Huber seeks to prove is that junk science is the "most insidious" problem facing our tort system today. Thus, central to Huber's entire argument is the factual assertion that "[j]unk science verdicts, once rare,

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HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 2-3.

73. Huber asserts that "junk scientists" are willing to stretch whatever facts they discover to fit the theories they espouse. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 27-29. Thus:

Pathological science often needs to assert claims of great accuracy as well, to convert random noise into an apparently meaningful pattern. Observed effects rise and fall as the intensity of the field (or the alpha rays, or the ambient traces of dioxin, or whatever) are steadily increased. The skeptic concludes: there is no effect here at all. Oh no, says the believer. Oh no. There are "windows" of sensitivity and response here. Resonances. The effects are highly sensitive to the precise frequency of the electric field, or dosage, or what have you. To the well-calibrated eye, there is order here. The wide variations in response just reveal exquisite sensitivity to the stimulus.

However gathered, bad data serve as a springboard for spurious inferences.

*Id.* at 28-29.

74. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 2 ("The pursuit of truth, the whole truth, and nothing but the truth has given way to reams of meaningless data, fearful speculation, and fantastic conjecture.").

Huber is right to hold out this standard for scientists and scholars, and indeed himself. But he is either confused or misleading in his suggestion that the adversarial civil justice system (or the adversarial criminal justice system, for that matter) has as its aim the pursuit of "truth, the whole truth, and nothing but the truth." As Huber surely knows, the justice system pursues relative justice, not absolute truth. If discovering absolute truth, not pursuing relative justice, was the purpose of the justice system, many things would change. We would have inquiries, not trials. The rules governing discovery would be greatly loosened, if not entirely eliminated, and the discovery process would know no limits. Statutes of limitation and statutes of repose would be repealed. And such niceties as the work-product doctrine, the attorney-client privilege (and all other testimonial privileges), protective orders, confidentiality decrees, sealed stipulations of settlement, gag orders, and such constitutionally mandated doctrines as the exclusionary rule and the *Miranda* doctrine would have to go the way of the wind, as each substantially interferes with the pursuit of absolute truth.

75. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 27 (claiming that "wishful researchers unconsciously discard 'bad' data to make remaining 'good' points look more important"). Huber quotes Nobel laureate Richard Feynman to good effect about why good scholarship "demands 'utter honesty,' a 'leaning over backwards' to be open and frank. '[T]he idea is to try to give all of the information to help others to judge the value of your contribution; not just information that leads to judgment in one particular direction or another.'" *Id.* at 207 (quoting RICHARD FEYNMAN, SURELY YOU'RE JOKING, MR. FEYNMAN! 34 (1985)).



are now common. Never before have so many lawyers grown so wealthy peddling such ambitious reports of the science of things that aren't so."<sup>76</sup> The Churchillian send-up is a nice touch, if a bit overused. But Churchill had a way with facts, not just words.<sup>77</sup> Where are Huber's facts, statistics, hard evidence, and authorities? Huber cites none, and he does not attempt to build an empirical case of his own to demonstrate the significance of the problem on which he dwells. Not only are there no studies that support Huber's view, but a recent report by the authoritative Carnegie Commission on Science, Technology, and Government concluded that, as for the "alleg[ations] that 'junk science' is flooding the courtroom," "many of the concerns are greatly exaggerated" and "it does not appear that the federal courts are being inundated with fringe science."<sup>78</sup>

The first hint of the factual inadequacy in Huber's book lies in its organization. Part I of *Galileo's Revenge* takes the form of a rambling opening statement, defining the terms "liability science" and "junk science" and introducing central villains from both law and science who are integral to the insidious problem Huber has detected.<sup>79</sup> The book ends, in Part III, with an even more discursive closing argument, repeating these themes and urging judges to reject all scientific testimony not endorsed by so-called mainstream scientists.<sup>80</sup> Less than sixty percent of *Galileo's Revenge's* pages are devoted to presenting factual support for Huber's thesis.<sup>81</sup> And in this middle section of the book, entitled "Law and Pseudoscience,"<sup>82</sup> Huber proceeds only by way of illustrative anecdotes that, while individually dramatic, are never quantified. Although Huber often refers to the persecution of witches, and in fact quantifies the scope of that long-gone junk science epidemic,<sup>83</sup> Huber's modern-day junk

76. HUBER, GALILEO'S REVENGE, *supra* note 5, at 4 (emphasis added).

77. For example, Churchill knew—and noted—just how few Royal Air Force (RAF) pilots fought off the Luftwaffe during the Battle of Britain. It was those real facts, and not just Churchill's words, that made his speech so compelling. See WINSTON S. CHURCHILL, BLOOD, SWEAT & TEARS 341-51 (1941) (presenting Churchill's famous speech to British House of Commons on August 20, 1940, in which Churchill recounted how Britain's RAF defeated Germany's Luftwaffe despite overwhelming numerical odds and stated, "Never in the field of conflict was so much owed by so many to so few.").

78. CARNEGIE COMM'N ON SCIENCE, TECHNOLOGY, & GOV'T, SCIENCE AND TECHNOLOGY IN JUDICIAL DECISION MAKING 13 (Mar. 1993). The Commission did note, however, that the reported cases "represent only the tip of the iceberg." *Id.*

79. HUBER, GALILEO'S REVENGE, *supra* note 5, at 9-35.

80. HUBER, GALILEO'S REVENGE, *supra* note 5, at 171-228.

81. HUBER, GALILEO'S REVENGE, *supra* note 5, at 39-168.

82. HUBER, GALILEO'S REVENGE, *supra* note 5, at 37.

83. See HUBER, GALILEO'S REVENGE, *supra* note 5, at 10 (explaining how witch hunts expanded as number of witch hunters increased, and stating that "[b]etween the Renaissance and the Reformation, half a million witches were burned at the stake, for crimes committed only in other people's dreams").

science anecdotes never seem to make it into a table or chart and are never cited as anything but individual examples of a supposed whole. Huber's portrait of bad science running riot over good is at best illustrative and impressionistic.

It may seem odd that an author who so revels in the hard sciences of numerical, mathematically measurable, and provable (or falsifiable) facts, and who so chastises expert witnesses whom he terms "liability scientists" for their putative failure to use empirical, quantifiable data, is so chary of using them himself. But the absence in *Galileo's Revenge* of empirically verifiable indicia of the "junk science" problem hardly seems an inadvertence. More likely, it is a stratagem designed to avoid the sort of intense criticism that Huber faced when he did set forth a key, bottom-line statistic in his 1988 book, *Liability: The Legal Revolution and Its Consequences*—for which Huber received intense criticism on the ground that he had simply concocted the number as a means of dramatizing a supposedly engulfing tide of frivolous lawsuits, absurd verdicts, outrageous damage awards, and ridiculous rulings.<sup>84</sup>

As noted in Part I, former Vice President Dan Quayle based his charge that lawsuits were costing the American economy \$300 billion a year entirely on the "facts" that Huber cited in *Liability*.<sup>85</sup> The trouble with the \$300 billion figure is that it does not bear up under even cursory scrutiny. As the venerable British journal *The Economist* has summarized, the "\$300 billion figure has no discernible connection to reality,"<sup>86</sup> and "is impossible to justify."<sup>87</sup> "[T]here is scant evidence of the catastrophic damage described by Mr. Quayle and other critics," and, in fact, "much of the conventional wisdom about product liability that lies behind the alarmist talk is plain wrong."<sup>88</sup>

This view has been echoed by Judge Roger J. Miner of the U.S. Court of Appeals for the Second Circuit, a prominent judicial conservative who was appointed to the bench in 1985 by President Reagan. Speaking before the Association of the Bar of the City of New York in October, 1992, Miner advised that "'it seems almost certain that all of [Quayle's] figures were wrong.'"<sup>89</sup> In particular, Miner continued, "'[t]he \$300 billion figure has been demonstrated to be

84. See HUBER, *LIABILITY*, *supra* note 8, at 4 (citing \$80 billion figure as direct cost of liability system and \$300 billion as indirect cost).

85. See *supra* notes 39-42 (discussing former Vice President's reliance on Huber's figures).

86. *Order in the Tort*, *ECONOMIST*, July 18, 1992, (Survey) at 8, 13.

87. *Not Guilty*, *ECONOMIST*, Feb. 13, 1993, at 63, 63.

88. *Id.*

89. Henry J. Reske, *In Defense of Lawyers: Conservative Judge Challenges Quayle Statistics*, A.B.A.J., Jan. 1993, at 33, 33 (quoting Judge Roger J. Miner).

a product of casual speculation and not derived in any sense from investigative or statistical analysis.' ”<sup>90</sup>

As University of Wisconsin law professor Marc Galanter has reported, Quayle took his numbers from “liability guru Peter Huber, who, it is fair to say, made [them] up.”<sup>91</sup> Galanter went to some effort to try to track down the sources and reasoning behind Huber’s \$300 billion number. His exegesis deserves to be quoted at length:

Those who beat the antilawyer drum tell us, to take a statement made by the vice-president to a group of business leaders last October, that “the legal system . . . now costs Americans an estimated \$300 billion a year.” Three hundred billion? Where does that come from? The vice-president has it from the Council on Competitiveness (which he chairs), whose “Agenda for Civil Justice Reform,” released August 13, 1991, borrows it from an article in *Forbes*, which in turn took it from liability guru Peter Huber, who, it is fair to say, *made it up*.

From a single sentence spoken by corporate executive Robert Malott in a 1986 roundtable discussion of product liability, Huber, in his 1988 book *Liability: The Legal Revolution and Its Consequences*, adopted an unsubstantiated estimate that the direct costs of the U.S. tort system are at least \$80 billion a year—a number far higher than the estimates in careful and systematic studies of these costs. Huber then multiplied Malott’s surmise by 3.5 and rounded it up to \$300 billion—and called that the indirect cost of the tort system. The 3.5 multiplier came from a reference in a medical journal editorial concerning the effects on doctors’ practices of increases in their malpractice insurance premiums. Huber’s book contained no discussion of the applicability of this multiplier. *It would appear that Huber, who has recently taken to lecturing on the dangers of “junk science,” certainly knows whereof he speaks.*

So the vice-president’s [and Huber’s \$300 billion] cost estimate is not the product of any investigation or analysis by the competitiveness council, or by *Forbes*, or by Huber, but is a product of casual speculation.<sup>92</sup>

Other scholars have agreed with Galanter’s criticisms of Huber’s “utterly cavalier treatment of facts” and “use of sources that would

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90. *Id.*

91. Marc Galanter, *Pick a Number, Any Number*, AM. LAW., Apr. 1992, at 82, 84 [hereinafter Galanter, *Pick a Number*].

92. *Id.* at 84 (emphasis added); see also Carolyn Colwell, *A Defense Lawyer for Lawyers; State Bar Head Says Bush-Quayle Attacks on Attorneys Are “Nonsense”*, NEWSDAY, Nov. 2, 1992, at B36 (citing Harvard professor Paul Weiler’s objections to Huber’s estimate that yearly cost of litigation is \$300 billion); Marc Galanter, *Bumbling on Billions*, AM. LAW., Apr. 1992, at 86, 86 (discussing Huber’s lack of scholarly research and analysis).

shame any first-year law student."<sup>93</sup> Thus, Professor Nicholas A. Ashford, who taught Huber when he studied engineering at MIT, characterized Huber's manipulation of the facts from which the \$300 billion estimate was derived as nothing less than a "slick sleight of hand."<sup>94</sup> Peter L. Kahn, an economist at Catholic University's Columbus School of Law, called Huber's "numbers totally misleading. They immensely overstate the cost of the tort system to society."<sup>95</sup> Deborah R. Hensler, senior social scientist at the RAND Institute for Civil Justice, a highly regarded research center, accused Quayle of presenting "'shaky'" statistics that are "'at best incomplete and at worst misleading.'" <sup>96</sup> Mark Hager, a professor at The American University's Washington College of Law who analyzed the provenance and accuracy of the \$300 billion figure in exceedingly fine detail in six pages of his superb Stanford Law Review article on *Liability*, castigated that figure as a "huge exaggeration."<sup>97</sup>

Huber's use of the \$300 billion "factoid" appears symptomatic of Huber's writings overall. Thus, Harvard law professor and top Rea-

93. Galanter, *Pick a Number*, *supra* note 91, at 82, 84.

94. Geyelin, *supra* note 31, at A1 (quoting Nicholas Ashford).

95. Peter L. Kahn, *Pricing the U.S. Legal System*, CHRISTIAN SCI. MONITOR, Sept. 11, 1992, at 19.

96. Milo Geyelin, *Quayle's Data in Proposed Reform of Legal System Called Misleading*, WALL ST. J., Feb. 4, 1992, at B7 (quoting Deborah Hensler).

97. Mark M. Hager, *Civil Compensation and Its Discontents: A Response to Huber*, 42 STAN. L. REV. 539, 547 (1990). For example, Hager traces the origin of one key element of the \$300 billion "liability tax," the supposed \$80 billion a year in direct liability costs that burden the U.S. economy:

The source of this figure is mysterious and its accuracy doubtful.

Huber gives only one cite for the figure: "*Chief Executive*, Summer 1986, p. 32." Ever hear of *Chief Executive*? Neither had I, but it turns out to be a kind of coffee table magazine for high executives: lots of color photos and gossipy tidbits about business luminaries. Its statement of editorial policy explains:

Chief Executive is a journal of opinion by and for CEOs . . . . Our aim is to . . . raise issues and offer solutions . . . without the editorial filter of the news media. . . . Chief Executive is not a newsgathering magazine . . . . It serves as a forum through which . . . [CEOs] can exchange opinions and get to know one another.

Huber's endnote refers us to a [*Chief Executive*] combination feature on "The Liability Crisis," part of it done in that familiar journalistic forum style: reprinting an interviewer's questions and the oral remarks of several assembled pundits. The specific source for Huber's figure is a remark by Robert Malott, chair of the Business Roundtable's product liability task force, that "insurance liability costs industry about \$80 billion a year." Malott gives no documentation for his remark, so it is difficult to know on what it is based or what types of costs the figure is meant to include. It is striking, to say the least, that Huber should rely on such a casual source for so crucial a point in his argument.

Huber characterizes this \$80 billion annual figure as the sum of what tort liability costs America "directly." Malott does not use the term "directly," and Huber does not explain why he inserts the adjective or what it denotes. Hence, the meaning and significance of the figure, already vague as posited by Malott, becomes even more slippery in Huber's hands.

*Id.* (footnotes omitted).

gan Justice Department official Richard Stewart criticized *Liability* for Huber's "embrace of large conclusions on the basis of partial or inadequate evidence."<sup>98</sup> Joseph A. Page, a professor at the Georgetown University Law Center, faulted Huber for the "many inaccuracies and distortions sprinkled throughout [*Liability*]."<sup>99</sup> Even conservative scholars fault Huber for his reckless disregard of factual accuracy. Thus, Jeffrey O'Connell of the University of Virginia Law School, who generally agrees with a number of Huber's proposals, "finds fault with some of his methodology and data. 'I think he does extrapolate from some pretty marginal data sometimes.'"<sup>100</sup> Professor Hager goes a bit further: he finds *Liability* to be "a book riddled with flaws and errors—factual, historical, logical, philosophical, and moral—so serious as to make its destined status as 'authoritative' a disturbing prospect."<sup>101</sup> Hager concludes: "Sloppy scholarship and flimsy argumentation make the book too flawed to be taken seriously. Huber's statistics and anecdotes about the liability crisis are so misleading that they amount to little more than scare tactics."<sup>102</sup>

Sadly, the only lesson that Huber seems to have gleaned from these criticisms of his first book is not that providing accurate facts and reliable numbers is indispensable, but that in the polemical

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98. Geyelin, *supra* note 31, at A6 (quoting Richard Stewart).

99. Joseph A. Page, *Deforming Tort Reform*, 78 GEO. L.J. 649, 659 (1990). Page concludes that *Liability* is generally flawed by a "cavalier regard for accuracy." *Id.* at 697; see also Vincent R. Johnson, *Liberating Progress and the Free Market from the Specter of Tort Liability*, 83 NW. U. L. REV. 1026, 1031 n.35 (1989) ("While the accuracy of Huber's argument is often a matter of interpretation and emphasis, at some junctures, certain factual assertions appear to be simply incorrect or plainly misleading."); Alan O. Sykes, *Reformulating Tort Reform*, 56 U. CHI. L. REV. 1153, 1157 (1989) (noting that "[u]nfortunately, Huber's method of proof as to the existence of error and its consequences is sometimes bald assertion").

100. Geyelin, *supra* note 31, at A6 (quoting Jeffrey O'Connell).

101. Hager, *supra* note 97, at 540.

102. Hager, *supra* note 97, at 579. Despite the strong criticisms contained in Geyelin's *Wall Street Journal* expose of Oct. 16, 1992, Geyelin, *supra* note 31, at A1, A6, including negative comments by a co-author of his next book and two of his former professors, *id.*, three months transpired before Huber publicly commented, in the form of a letter to the editor of the *Journal*. Peter W. Huber, "Sleight of Hand?" *Look Closer*, WALL ST. J., Jan. 15, 1993, at A11. Despite Huber's ample time for reflection on the range of criticisms in the article, Huber elected to respond to only one criticism, that of his \$80 billion/\$300 billion annual "tort tax" figure. Huber complained that Geyelin's article "focused on a single paragraph from my 1988 book 'Liability.' You dismissed my \$80 billion estimate of the direct costs of liability insurance as conjecture. . . . There followed a quote accusing me of 'slick sleight of hand.'" *Id.* Of course, Geyelin's article highlighted the \$300 billion figure as but *one* (albeit the most glaring) example of Huber's decidedly unscholarly reliance on unsubstantiated facts and rhetorical excesses, as to the rest of which Huber had nothing to say. Even as to the \$300 billion figure, Huber's defense was to quote a 1992 clip from the RAND Corporation's Institute for Civil Justice, summarizing the origins of Huber's \$300 billion figure, noting that it "raises some questions" about the validity of the analysis, offering an alternative estimate of the cost of the tort system, and opining that "[r]ight now, the answer to these questions must be that we really don't know." *Id.*

writing of a "good jeremiad" it is necessary to dispense with concrete facts and numbers *in their entirety* so as to avoid giving critics a clear target. Accordingly, in *Galileo's Revenge* Huber has totally eschewed hard numbers and solid statistics, opting instead for soft anecdotes that are a good bit more difficult to appraise, much less challenge. Thus, Huber nowhere documents his specific, central charge that "[j]unk science verdicts, once rare, are now common."<sup>103</sup> *Galileo's Revenge* fails Huber's first test for good analysis. Huber does not even attempt to establish verifiable or falsifiable factual data, but instead relies on endless repetition of the same theory, based on isolated anecdotal information.

### B. *The Factual Distortions in Case Studies*

Huber's second test for distinguishing "good science" from "junk science"—or, for our purposes, good scholarship from "junk scholarship"—involves analyzing the accuracy and reliability of the individual facts used by the scientist or the author. *Galileo's Revenge* fails this test as well.

Unable to cite any statistical measures to prove that junk science verdicts are "common," Huber devotes the middle seven chapters of *Galileo's Revenge* to loose case studies of supposed junk science. The first five chapters present anecdotal information in five kinds of cases, cases put forth by Huber as proof of junk science run wild: trauma-induced cancer, Audi 5000 "sudden acceleration," cerebral palsy as a result of birth malpractice, clinical ecology, and Bendectin. Two chapters then stress thematic concerns about tort law's allowability of recovery for fear of future injury and tort law's ignorance of environmental and lifestyle factors contributing to personal injuries.

The use of illustrative examples and anecdotes is not a wholly illegitimate method of argument, but it has its dangers.<sup>104</sup> Even assuming that the portraits accurately depict the problem or tendency they purport to describe, there always remains the question whether the examples delineated as prototypes are really representative of other cases. For example, readers of reports prepared by statisticians and

103. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 4.

104. As Professor Saks has persuasively pointed out, "anecdotal evidence is heavily discounted in most fields" because it "permits only the loosest and weakest of inferences about matters a field is trying to understand." Michael J. Saks, *Do We Really Know Anything About the Behavior of the Tort System—And Why Not?*, 140 U. PA. L. REV. 1147, 1159 (1992). "[I]f we want to know how the [tort litigation] system is really performing . . . then we must do more than fling anecdotes back and forth," partly because "[s]ome litigation system anecdotes are simply fabricated," and partly because "[a]necdotes have the power to mislead us into thinking we know things that anecdotes simply cannot teach us." *Id.* at 1160-61.

political pollsters are typically cautioned to inquire whether the sample studied was a truly representative segment of the whole. Huber provides no basis for establishing whether the examples he gives of junk science are typical or instead aberrant. He simply asserts that the specific examples he cites are characteristic of overall trends and entreats the good reader to trust him.

Beyond the lack of any basis for extrapolating from a few case studies to a broader conclusion, the key case studies offered by Huber are themselves plagued by heavy misstatements of fact, as the remainder of this Part demonstrates.<sup>105</sup>

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105. Given time and space constraints, the author has not attempted to analyze every factual charge made by Huber. Nevertheless, all is not well even in the portions of *Galileo's Revenge* that are not critiqued at length in the ensuing pages. As just one example, chapter 6 of *Galileo's Revenge*, entitled "No Immunity: Chemicals Cause Everything," purports to debunk the theory that the human immune system can be compromised by environmental toxins, a theory sometimes referred to as "chemical AIDS." See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 92-110 (attacking Dr. Bertram Carnow and his school of "chemical AIDS" enthusiasts and declaring that clinical ecology syndrome is belief, not disease). Huber reports that maverick scientists' theories that industrial poisons can significantly damage the body's autoimmune system are "medical fantasy, not fact." *Id.* at 104. He adamantly insists that the theory that chemicals could so weaken a body's immune system as to facilitate the development of diseases otherwise warded off by the natural immunities

finds no confirmation in studies of people who have been exposed to chemicals at levels millions of times higher than those encountered through environmental pollution. . . . Good science has quite firmly established that, though scads of toxins might theoretically harm immune system cells and proteins, only a very few, usually delivered intimately, knock out immune response while leaving no visible marks on other body systems.

*Id.* at 104-05. Earlier in his book, Huber mocks these clinical ecologists as a mongrel "mix of general practitioners, psychiatrists, urologists, and pediatricians," few of whom had scientific training in laboratory or clinical research. *Id.* at 94.

This appears to be somewhat of an overreaction. In fact, real scientists, including those "with diverse backgrounds in and knowledge of immunology, toxicology, immunotoxicology, risk analysis, and other disciplines," and hailing from distinguished Federal Government research labs like the Centers for Disease Control, the National Cancer Institute, the National Institute of Environmental Health Sciences, and the National Institute for Occupational Safety and Health, as well as the Johns Hopkins University, Case Western Reserve University, the University of Colorado, and Oregon State University, disagree with Huber. SUBCOM. ON IMMUNOTOXICOLOGY, NATURAL RESEARCH COUNCIL, *BIOLOGIC MARKERS IN IMMUNOTOXICOLOGY 1* (1992). Their research, which was sponsored by the U.S. Environmental Protection Agency, the U.S. Public Health Service, the National Institute for Environmental Health Sciences, and the National Institute of Allergy and Infectious Diseases and published by the National Academy of Sciences Press, reached conclusions quite different from Huber's. The Subcommittee on Immunotoxicology of the Committee on Biologic Markers of the National Research Council reported:

There is increasing awareness and concern within the scientific and public communities that chemical pollutants can suppress immune processes and thus cause increased development of neoplastic and infectious diseases. Adverse effects on humans treated with immunosuppressive drugs, numerous studies employing experimental animals, and, to a lesser extent, isolated cases of altered immune function in humans inadvertently or occupationally exposed to xenobiotic [a chemical from a nonbiologic source] substances support these concerns. There is no definitive evidence, as yet, that persons who live near contaminated sites or chemical-manufacturing plants have been immunologically compromised to the extent that they are at increased risk of disease. Nonetheless, there is reason to believe that chemical-induced damage to the [human body's]

### 1. "Cancer-by-pothole"

In chapter three of *Galileo's Revenge*, "The Midas Touch: How Money Causes Disease,"<sup>106</sup> Huber assails what he felicitously calls the "cancer-by-pothole" theory of causation, the notion that cancer can be caused by some sort of physical trauma, such as a blow on the arm, the sudden tug of a seatbelt across the groin during an auto accident, or the bumping of a person's chest against the steering wheel of a vehicle as the vehicle runs into a pothole.<sup>107</sup> Huber highlights forty cases as examples of cancer-by-pothole, surely an impressive number for a seventeen-page chapter, and a number suggesting that a problem of "junk science" has existed in this area of tort law.

Curiously, however, in ten of these forty cases, juries and judges did exactly what Huber thinks they ought to do in every case: they rejected the plaintiffs' junk science claims.<sup>108</sup> That leaves Huber with thirty cases to ridicule. One difficulty with the remaining thirty cases, however, is their timeworn status. With the exception of three cases,<sup>109</sup> every case that Huber mocks as an exemplar of pseudoscience running riot in our modern age, despite the best knowledge made available by modern science, *predates* a 1974 Mayo Clinic study<sup>110</sup> that Huber himself cites as the definitive analysis of the the-

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immune system might be associated with pathologic conditions, some of which might be detectable only after a long latency.

....  
One should not use such a term as "chemical AIDS" in reference to chemical-induced immune dysfunction. . . . AIDS and the effect of commonly used immunomodulating drugs can be useful, however, as examples of the damage that can result from a compromised immune system in animals and humans.

*Id.* at 63 (emphasis added). Notwithstanding Huber's authoritative pronouncements to the contrary, it appears that real scientists find that there are real problems in this area—illustrating that no factual proposition advanced by Huber, regardless of how plausible and how confidentially asserted, can reliably be counted on as accurately reflecting the whole picture.

106. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 39-56.

107. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 53-54 (citing "cancer-by-pothole" decisions in Louisiana and New York).

108. *Slack v. C.L. Percival Co.*, 199 N.W. 323, 326-27 (Iowa 1924); *Stordahl v. Rush Implement Co.*, 417 P.2d 95, 99 (Mont. 1966); *Sikora v. Apex Beverage Corp.*, 119 N.E.2d 601, 601 (N.Y. 1954); *Dennison v. Wing*, 110 N.Y.S.2d 811, 814 (N.Y. App. Div. 1952); *Frankenheim v. B. Altman & Co.*, 177 N.Y.S.2d 302, 304 (N.Y. App. Term. 1958); *Lopresti v. Community Traction Co.*, 117 N.E.2d 2, 7 (Ohio 1954); *Glover v. Rhett Jackson Co.*, 267 S.E.2d 77, 78 (S.C. 1980); *Gambrell v. Burleson*, 165 S.E.2d 622, 626 (S.C. 1969); *Insurance Co. of N. Am. v. Myers*, 411 S.W.2d 710, 710 (Tex. 1966); *Tonkovich v. Department of Labor & Indus.*, 195 P.2d 638, 638 (Wash. 1948).

109. See *Hammond v. Fidelity & Casualty Co.*, 419 So. 2d 829, 833 (La. 1982) (permitting plaintiff to recover for cancer aggravated by traumatic injury); *Pezzolanti v. Green Bus Lines*, 494 N.Y.S.2d 168, 169 (N.Y. App. Div. 1985) (upholding cancer-by-pothole award where trauma aggravated preexisting cancer); *Glover v. Jackson Bush Co.*, 267 S.E.2d 77, 78 (S.C. 1980) (rejecting claim that trauma aggravated precancerous condition).

110. See generally George R. Monkman et al., *Trauma and Oncogenesis*, 49 MAYO CLINIC PROC. 157 (1974) (reporting that thorough review of literature relating cancer to trauma revealed



ories that cancer can be induced, spread, or accelerated by trauma.<sup>111</sup>

To be sure, as Huber rightly notes, some scientists long ago doubted that a single physical blow, by itself, could cause cancer where none had existed before.<sup>112</sup> And, as Huber also observes, the number of such skeptics grew over the years. But, as evidenced by the pains taken by the Mayo Clinic experts in a 1974 review of previous studies of traumatic cancer, reputable accounts of cancer being caused by a single blow were still being published by well-respected scientists in leading scientific journals into the 1960s.<sup>113</sup> Accordingly, what is particularly noteworthy about the Mayo Clinic report is not that its authors concluded that "there is no evidence to suggest that single uncomplicated trauma can cause cancer,"<sup>114</sup> but that such a conclusion was the stuff of serious scholarly inquiry as late as 1974.

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that although no evidence existed to suggest origin of cancer in single uncomplicated trauma, adequate evidence does exist to suggest that spread of malignant tumors can be affected by trauma). The study is cited in HUBER, GALILEO'S REVENGE, *supra* note 5, at 51, 56.

111. One of the cases that predate the 1974 Mayo Clinic study dates from the 1800s: *Jewell v. Ground Truck Ry.*, 55 N.H. 84, 89 (1874).

Three of the cases date from the 1910s: *Santa Ana Sugar Co. v. Industrial Comm'n*, 170 P. 630, 630 (Cal. Dist. Ct. App. 1917); *Louisville Ry. v. Steubing's Adm'r*, 136 S.W. 634, 634 (Ky. Ct. App. 1911); *Thompson v. New Orleans Ry. & Light Co.*, 83 So. 19, 20 (La. 1919).

Four cases date from the 1920s: *Canon Reliance Coal Co. v. Industrial Comm'n*, 211 P. 868, 869 (Colo. 1922); *Austin v. Red Wing Sewer Pipe Co.*, 204 N.W. 323, 323-24 (Minn. 1925); *Gaetz v. City of Melrose*, 193 N.W. 691, 692 (Minn. 1923); *Winchester Milling Corp. v. Sencindiver*, 138 S.E. 479, 480 (Va. 1927).

Two cases date from the 1930s: *Hertz v. Watab Pulp & Paper Co.*, 237 N.W. 610, 611 (Minn. 1931); *Vitale v. Duerbeck*, 92 S.W.2d 691, 695 (Mo. 1935).

Four cases date from the 1940s: *Mooney v. Copper Range R.R. Co.*, 27 N.W.2d 603, 604 (Mich. 1947); *Emma v. A.D. Julliard & Co.*, 63 A.2d 786, 787-88 (R.I. 1949); *Traders & Gen. Ins. Co. v. Turner*, 149 S.W.2d 593, 597-98 (Tex. Civ. App. 1941); *Ellis v. Commonwealth Dep't of Highways*, 28 S.E.2d 730, 731-32 (Va. 1944).

Seven cases date from the 1950s: *Wilson v. Doehler-Jarvis Div. of Nat'l Lead Co.*, 91 N.W.2d 538, 539-40 (Mich. 1958); *Pittman v. Pillsbury Flour Mills, Inc.*, 48 N.W.2d 735, 736 (Minn. 1951); *White v. Valley Land Co.*, 322 P.2d 707, 708 (N.M. 1958); *Glenn v. National Supply*, 129 N.E.2d 189, 190-91 (Ohio Ct. App. 1954); *Menarde v. Philadelphia Transp. Co.*, 103 A.2d 681, 683 (Pa. 1954); *Valente v. Bourne Mills*, 75 A.2d 191, 193 (R.I. 1950); *Boyd v. Young*, 246 S.W.2d 10, 10 (Tenn. 1951).

Four cases date from the 1960s: *National Dairy Prods. Corp. v. Durham*, 154 S.E.2d 752, 753 (Ga. Ct. App. 1967); *Daly v. Bergstedt*, 126 N.W.2d 242, 244-45 (Minn. 1964); *Mattfield v. Ward Baking Co.*, 221 N.Y.S.2d 224, 224 (N.Y. App. Div. 1961); *Baker v. De Rosa*, 196 A.2d 387, 388 (Pa. 1964).

Finally, three cases date from the early 1970s: *Reed v. Mullin Wood Co.*, 274 So. 2d 845, 846-47 (La. Ct. App. 1972), *cert. denied*, 275 So. 2d 729, 791 (La. 1973); *Hanna v. Aetna Ins.*, 259 N.E.2d 177, 177-79 (Ohio Mun. Ct. Dayton 1970); *Koehring-Southern & Am. Mut. Ins. Co. v. Burnette*, 464 S.W.2d 820, 821 (Tenn. 1970).

112. See HUBER, GALILEO'S REVENGE, *supra* note 5, at 50-51 (recounting work of Dr. James Ewing, who remained skeptical of single blow cancer causation theory throughout his research beginning in mid-1920s).

113. See Monkman et al., *supra* note 110, at 159, 161 (reporting 1960s studies of trauma-induced or -affected malignancies by various scientists).

114. Monkman et al., *supra* note 110, at 167.

It is as important to pay attention to what the Mayo clinicians did *not* say as it is to what they did say. They did not declare that trauma cannot aggravate or accelerate existing malignancies. Rather, the Mayo Clinic experts confirmed earlier reports, which some industry-funded "mainstream" experts had previously denounced as fraudulent science, that "trauma, in combination with other factors, may act as a cocarcinogen, particularly in the production of skin cancers."<sup>115</sup>

They conceded a point that Huber disingenuously chooses to omit: the fact that "[t]here is adequate evidence suggesting that metastatic spread of malignant tumors can be affected by trauma."<sup>116</sup> Significantly, eighteen of these twenty-seven cases ridiculed by Huber that predate the 1974 Mayo Clinic report—fully two-thirds of the cases discussed by Huber—involved these wholly tenable claims that a trauma aggravated, accelerated, or spread existing malignancies.<sup>117</sup> Huber studiously conceals this fact from readers who lack the time, or the distrust of authors, to check each source relied on by Huber. Instead, Huber leads the reader to assume that the cases he discusses involve *only* the claim that a blow was the sole cause of a cancer.<sup>118</sup>

Huber then states that after courts started questioning single-

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115. Monkman et al., *supra* note 110, at 167.

116. Monkman et al., *supra* note 110, at 167.

117. See *National Dairy Prods. Corp. v. Durham*, 154 S.E.2d 752, 754 (Ga. 1967) (alleging that collision aggravated and accelerated plaintiff's cancer); *Reed v. Mullin Wood Co.*, 274 So. 2d 845, 846 (La. Ct. App. 1972) (awarding worker's compensation claim to plaintiff who alleged that blow in leg caused or aggravated cancer), *cert. denied*, 275 So. 2d 791, 792 (La. 1973); *Wilson v. Doehler-Jarvis*, 91 N.W.2d 538, 539 (Mich. 1958) (claiming trauma caused or precipitated cancer); *Mooney v. Copper Range R.R. Co.*, 27 N.W.2d 603, 606-07 (Mich. 1947) (alleging that fall from train aggravated or accelerated cancer); *Pittman v. Pillsbury Flour Mills, Inc.*, 48 N.W.2d 735, 738 (Minn. 1951) (alleging that blow to chest from drill caused or aggravated breast cancer); *Hertz v. Watab Pulp & Paper Co.*, 237 N.W. 610, 611 (Minn. 1931) (finding trauma originated or exaggerated and excited cancer); *Gaetz v. City of Melrose*, 193 N.W. 691, 691 (Minn. 1923) (alleging that assault by criminals aggravated preexisting cancer); *Jewell v. Grand Trunk Ry.*, 55 N.H. 84, 95 (1874) (claiming accident caused or accelerated cancer); *White v. Valley Land Co.*, 322 P.2d 707, 711 (N.M. 1958) (alleging that blow to leg aggravated or caused cancer); *Mattfield v. Ward Baking Co.*, 221 N.Y.S.2d 224, 224 (N.Y. App. Div. 1961) (claiming blow aggravated cancer); *Glenn v. National Supply*, 129 N.E.2d 189, 192-93 (Ohio Ct. App. 1954) (claiming blow from mold aggravated cancer); *Baker v. De Rosa*, 196 A.2d 387, 392 (Pa. 1964) (sustaining claim that car accident caused or aggravated lung cancer); *Valente v. Bourne Mills*, 75 A.2d 191, 194 (R.I. 1950) (claiming blow from bobbin caused or aggravated cancer); *Koehring-Southern & Am. Mut. Ins. Co. v. Burnette*, 464 S.W.2d 820, 821-22 (Tenn. 1970) (claiming that traumatic injury to foot activated or accelerated cancer); *Boyd v. Young*, 246 S.W.2d 10, 12-14 (Tenn. 1951) (claiming that injury from heavy lifting caused or aggravated cancer); *Traders & Gen. Ins. Co. v. Turner*, 149 S.W.2d 593, 598 (Tex. Civ. App. 1941) (providing relief for claimant who suffered two blows to testicles that aggravated and accelerated cancer); *Ellis v. Commonwealth Dep't of Highways*, 28 S.E.2d 730, 732-36 (Va. 1944) (claiming that loose rocks hitting knee aggravated cancer); *Winchester Milling Corp. v. Sencindiver*, 138 S.E. 479, 480 (Va. 1927) (alleging fall causing injury to ribcage caused and aggravated rib cancer).

118. HUBER, GALILEO'S REVENGE, *supra* note 5, at 43-45.

blow causation in the 1950s and 1960s, "well-advised litigants kept their claims alive by a change of emphasis" with "the new line" that trauma did not cause cancer, but "did *aggravate* or *accelerate* the cancer."<sup>119</sup> Buried more than 150 pages later, in the sole textual endnote to this chapter, Huber adds, "The 'aggravation' theory had been around for much longer, of course, and appears frequently enough in the earlier decisions too. *E.g.*, *Traders and General Insurance Co. v. Turner*, 149 S.W.2d 593 (Tex. Civ. App., Ft. Worth 1941). In the later years, however, it displaces all others."<sup>120</sup>

A reader who has not bothered to go to the library and examine each case cited by Huber, and who for some reason happens to notice this buried endnote, will doubtless assume that the "earlier decisions" in which the aggravation theory appears "frequently enough" are decisions that Huber *does not discuss*, and that this endnote is an academic sidelight not worth putting in text. For in his earlier discussion of supposed cancer-by-pothole cases involving claims of cancer being caused by traumatic blows far faster than medically imaginable, Huber does not provide information that would allow a reader to discern that, "of course," two-thirds of the cases he does discuss actually involve perfectly understandable claims of aggravated cancer. Indeed, in his earlier discussion Huber misrepresents the *Traders v. Turner* case (correctly described in Huber's buried endnote as an *aggravated* cancer case), as a case in which "[t]wo severe blows to a man's testicles *caused* malignant cancer seven days later."<sup>121</sup> Reports of such bizarre cases are the mainstay of Huber's book, but they are entirely at odds with reality and require affirmative deception by Huber to have any rhetorical effectiveness.

Moreover, setting aside the Mayo Clinic's own recognition that tumors can be affected by trauma, the fact that some plaintiffs claimed that their cancer was caused, in whole or in part, by trauma is not a convincing demonstration of their greed or their willful disregard of "good science." Instead, it may merely be a reflection that at the time these claims were made, even the best of scientists were not certain what could or could not cause cancer.<sup>122</sup> In ridiculing yesterday's courts for having permitted yesterday's scientists to

119. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 52-53 (emphasis added).

120. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 234 n.68.

121. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 43 (emphasis added).

122. Huber's own selection of cases reveals a pattern that as the science of oncology matured and developed, scientists could be more definitive about the causes of cancer. Simply put, the more experience scientists gained, the more they understood that although trauma could aggravate, accelerate, and spread cancer, it could not, by itself, cause a tumor to develop where none had existed before. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 42-45

testify about a theory that today's scientists regard as false, Huber proves himself to be the classic Monday-morning quarterback, heaping scorn on yesterday's scientists (and lawyers and judges) for not knowing then what everyone knows now.<sup>123</sup>

The question remains: What about the three out of forty cases criticized by Huber that do postdate the 1974 Mayo Clinic study? Unfortunately for Huber, none of the three cases involved the now-widely discredited proposition that cancer can be caused by a single blow. Rather, each case concerned the unassailable view that preexisting cancerous conditions can be activated, precipitated, or spread as a result of a physical injury.<sup>124</sup> And one of those claims was rejected by the appellate court.<sup>125</sup> If there is any nonsense regarding Huber's "cancer-by-pothole" cases, it lies in Huber's distorted descriptions of them, not in the underlying claims of the litigants.

## 2. *Cerebral palsy*

The same holds true for chapter five of *Galileo's Revenge*, "Gadgets and Knives: Cashing in on Magical Cures." Huber argues in this chapter that obstetric malpractice accounts for a negligible number of cerebral palsy (CP) cases and, consequently, that: (1) most suits brought by plaintiffs that allege medical malpractice as the cause of infant CP are frivolous,<sup>126</sup> and (2) efforts to reduce CP by improving obstetrical care (such as through the use of electronic fetal monitoring devices) are nothing more than a cruel and expensive hoax.<sup>127</sup> Huber asserts that most CP babies "are doomed long before an obstetrician comes near them."<sup>128</sup> This contention relies most heavily

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(describing early cancer litigation). In other words, as scientists learned more about the causes of cancer, plaintiffs ceased making claims that lacked a scientific basis.

123. Huber's showcasing of the work of pathologist James Ewing, Huber's hero of American science, who almost singlehandedly revealed the cancer-by-pothole theory to be a fraud, HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 50-51, is puzzling. Surely, that Ewing ultimately turned out to be right does not establish that it was "heresy" or "junk science" to disagree with Ewing when he first wrote in the mid-1920s. Many other scientists have turned out to be wrong in their attempts to debunk perceived dangers—for example, the scientists who in the early days of controversy over asbestos, cigarettes, silicone, and IUDs stated the belief that these products were not harmful.

124. See *Hammond v. Fidelity & Casualty Co.*, 419 So. 2d 829, 832 (La. 1982) (holding that doctor's testimony that tumor existed prior to injury but that injury precipitated disability supported compensation for disability claim); *Pezzolanti v. Green Bus Lines*, 494 N.Y.S.2d 168, 169 (1985) (holding that evidence supported claim that trauma contributed to disabling pain from tumor); *Glover v. Rhett Jackson Bush Co.*, 267 S.E.2d 77, 79 (S.C. 1980) (rejecting claim that one blow to arm had aggravated tumor).

125. *Glover*, 267 S.E.2d at 80.

126. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 76-82.

127. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 78-85 (criticizing rush in medical and legal communities to view use of electronic fetal monitoring as preventative "cure" for cerebral palsy).

128. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 82.

on a study appearing in 1986 in *The New England Journal of Medicine*,<sup>129</sup> which Huber cites six times in his seventeen-page chapter, far more than any other source.<sup>130</sup>

This important study by Drs. Karin Nelson and Jonas Ellenberg is praised by Huber as "the largest ever of its kind."<sup>131</sup> Huber further asserts that "[t]he results of a study of this size are about as solid and certain as medical science can supply."<sup>132</sup> Huber cites Nelson and Ellenberg for their finding that "no factor related to labor and delivery is associated with more than 2 percent of the risk."<sup>133</sup> Huber proclaims that this study brings a definitive end to the century-long debate over the causes of CP.<sup>134</sup> To do this, however, Huber resorts to the type of egregious selective citation that might trigger sanctions for a college term paper.

First, Huber fails to inform the reader that the editors of *The New England Journal of Medicine*, in the very issue that published the Nelson and Ellenberg article, noted significant analytical flaws in the article. In a rather unusual step, the editors paired the publication of the Nelson and Ellenberg study, which they obviously regarded as provocative, with their own critique of the article's underlying analytical premise. The author of the editorial, Dr. Nigel Paneth of Columbia University's College of Physicians and Surgeons, entitled a section of his essay: "Could the methods used by Nelson and Ellenberg have obscured the causal role of birth asphyxia?"<sup>135</sup> Paneth's answer to this question disclaimed the methodology employed in the Nelson and Ellenberg study.<sup>136</sup>

The causal role of birth asphyxia is obscured in the Nelson and Ellenberg article, Paneth said, because "the predictive power of a variable and its correct role in a causal sequence are not necessarily interchangeable."<sup>137</sup> Nelson's and Ellenberg's error was to ascribe nearly all CP causation to factors that occur before labor and delivery because those prelabor factors *predict* CP.<sup>138</sup> In other words, Dr. Paneth criticized Nelson's and Ellenberg's study for confounding

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129. Karin B. Nelson & Jonas H. Ellenberg, *Antecedents of Cerebral Palsy: Multivariate Analysis of Risk*, 315 NEW ENG. J. MED. 81 (1986).

130. HUBER, GALILEO'S REVENGE, *supra* note 5, at 240-43 nn.25, 28, 30, 35, 52, 54.

131. HUBER, GALILEO'S REVENGE, *supra* note 5, at 82.

132. HUBER, GALILEO'S REVENGE, *supra* note 5, at 83.

133. HUBER, GALILEO'S REVENGE, *supra* note 5, at 83.

134. HUBER, GALILEO'S REVENGE, *supra* note 5, at 82-83.

135. Nigel Paneth, *Birth and the Origins of Cerebral Palsy*, 315 NEW ENG. J. MED. 124, 125 (1986).

136. See *id.* (cautioning that "[i]f a variable present earlier is strongly associated with a true cause of disease, it may well substitute for that cause if entered first in a multivariate model").

137. *Id.*

138. *Id.*

prediction with cause: the fact that certain prebirth conditions unrelated to delivery may predict CP does not mean that physicians cannot overcome these problems through state-of-the-art birth procedures that can ensure a healthy baby. Thus, failure to use these procedures may constitute a proximate cause of CP. Dr. Paneth used the colorful analogy of a pirate walking the plank to illustrate his point: just because "walking the plank" predicts the death of a pirate, it does not follow that water is not a proximate cause of the pirate's drowning.<sup>139</sup> Similarly, just because prelabor factors are associated with CP does not mean that intrapartum obstetric practice is not the chief cause of (or a contributing factor in) some or even many cases of CP. Nelson and Ellenberg's conclusion that the "results suggest a relatively small role for factors of labor and delivery in accounting for CP in this population"<sup>140</sup> muddles prediction with cause.

Second, despite his extensive research into, and citation to, contemporary articles on CP, Huber fails to acknowledge that one of the co-authors of the Nelson and Ellenberg study essentially recanted her conclusion two years later.<sup>141</sup> The article ignored by Huber is a 1988 analysis by Nelson, published in the editor's column of *Journal of Pediatrics*, that conflicts with her 1986 article on the etiology of CP. She began her editorial by stating unequivocally, "[W]e know, on the basis of experimental and clinical evidence, that birth asphyxia *can* cause CP."<sup>142</sup> Nelson's 1988 assertion sharply contrasted with her minimization of labor and delivery factors in her 1986 study.<sup>143</sup> In the 1988 article, she explained that "[d]epending on the criteria employed, then, the estimate of the proportion of CP associated with intrapartum asphyxia in births in the NCPP [the same data pool used in the Nelson and Ellenberg study of 1986] was in the range of 3% to 13% and did not exceed 21%."<sup>144</sup> These statistics are miles apart from those cited in the article she co-authored just two years earlier. In 1986, Nelson and Ellenberg professed that "[t]he risk of cerebral palsy associated with each factor related to labor and delivery alone was under 2 percent in all

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139. *Id.*

140. Nelson & Ellenberg, *supra* note 129, at 86.

141. See Karin B. Nelson, *What Proportion of Cerebral Palsy Is Related to Birth Asphyxia?*, 112 J. PEDIATRICS 572, 573 (1988).

142. *Id.* at 572.

143. See Nelson & Ellenberg, *supra* note 129, at 86 (concluding that there is "relatively small role for factors of labor and delivery in accounting for cerebral palsy in [the population studied]").

144. Nelson, *supra* note 141, at 573.

cases."<sup>145</sup> Nelson's honorable recantation of her earlier claim is in keeping with the highest traditions of scholarship, both in the natural sciences and elsewhere.

Huber's failure to apprise the reader of either Paneth's editorial in *The New England Journal of Medicine* or Nelson's disavowal of her earlier study is anything but honorable. Huber can hardly claim inadvertence; he was well aware of both the editorial criticisms and Nelson's recantation because he cited both sources earlier in his chapter as background on the problem of CP.<sup>146</sup>

Huber's failure to convey significant information contrary to his conclusions is hardly limited to his discussion of CP. An even more egregious example of this practice is found later in the book in a discussion of the \$5.1 million award for spermicide-caused birth defects in *Wells v. Ortho Pharmaceutical Corp.*<sup>147</sup> Huber packages the case as a dramatic example of junk science at work, where a credulous jury is persuaded to render a "spectacular verdict" based on a single, tentative medical study, after which the authors of that study react in horror, confessing that the study was unsupported, inadequate, and should have been left unpublished.

On this subject, in marked contrast to his discussion of the evidence on cerebral palsy, Huber displays a keen interest in focusing the reader's attention on retractions. He states that in *Wells*,

lawyers won a spectacular \$5.1 million verdict against the Ortho Pharmaceutical Corporation, largely on the strength of a single study that had very tentatively suggested that spermicides might cause birth defects. A year after the verdict, however, the several authors of that study spoke out again. One acknowledged that their work "was not corroborated by subsequent studies," and that their "study's definition of exposure to spermicide near the time of conception was grossly inaccurate." Another frankly conceded: "I believe our article should never have been published. In our present litigious environment, the reservations and qualifi-

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145. Nelson & Ellenberg, *supra* note 129, at 83.

146. HUBER, GALILEO'S REVENGE, *supra* note 5, at 238 nn.2, 4. Although citing these sources, Huber resolutely and disdainfully ignores their content. Though Huber cites Nelson's 1988 article for the number of children born with CP, he cloaks the fact that Nelson had restated her views in a way that undermined rather than supported Huber's thesis that obstetric malpractice accounts for a negligible number of CP cases. *Id.* at 76, 238 n.2. Similarly, Huber conveniently chooses to ignore *The New England Journal of Medicine's* editorial doubts about the Nelson and Ellenberg study. Instead, Huber merely cites the Paneth editorial as a source for the history of theories of the etiology of CP. *Id.* at 238 n.4. Worse, in this latter footnote Huber disingenuously presents the dated authority, William Little, M.D., to represent the medical opinion that CP is related to intrapartum events. *Id.* Little, in 1861, theorized that CP was caused by "trauma and other stresses during labor and delivery." *Id.* at 76.

147. 615 F. Supp. 262, 266 (N.D. Ga. 1985), *aff'd*, 788 F.2d 741 (11th Cir.), *cert. denied*, 479 U.S. 950 (1986).

cations written into a published report are often ignored, and the article is used as 'proof' of a causal relationship."<sup>148</sup>

A close examination of *Wells*, and of the retractions cited by Huber, reveals three flagrant errors. First, contrary to Huber's effort to imply that *Wells* illustrates the work of a bamboozled, runaway jury, resulting in a "spectacular . . . \$5.1 million verdict,"<sup>149</sup> the parties in fact waived the right to a jury. *Wells* was decided by a federal district judge who issued a twenty-eight page opinion analyzing all the evidence and specifically concluding that the plaintiffs "presented competent and credible medical and scientific evidence" showing that the defendant's spermicide had caused the precise birth defects in question and that the plaintiffs had presented "the most reasonable and believable" testimony, given that much of the defendant's evidence "lacked credibility because it reflected bias or inconsistency."<sup>150</sup> This decision was unanimously upheld by three federal appellate judges, and the U.S. Supreme Court denied review.

Second, Huber suggests, without citation, that the award was handed out "largely on the strength of a single study."<sup>151</sup> Yet twenty-one studies were submitted into evidence, ten by the plaintiffs and eleven by the defendant.<sup>152</sup> Only one of the four experts called by plaintiffs even mentioned the study seized on by Huber (the "Jick study"), and this expert discussed a total of six studies tending to support causation.<sup>153</sup> Far from the intense focus on the Jick study that Huber claims animated the *Wells* case, the district judge indicated that he was favorably impressed by four of the studies cited by the plaintiffs' experts, including the Jick study, but that he "did not need to consider as substantive evidence" any of the studies offered on either side because he was basing his decision on the overall testimony of the experts on both sides.<sup>154</sup>

Third, Huber suggests that all of "the several authors" of the Jick study later repudiated their conclusions, expressing their detached

148. HUBER, GALILEO'S REVENGE, *supra* note 5, at 174 (footnotes omitted).

149. The term "verdict" obviously refers to the product of a jury trial. See, e.g., BLACK'S LAW DICTIONARY 1398 (6th ed. 1990) ("The formal decision or finding made by a jury, impaneled and sworn for the trial of a cause, and reported to the court. . . ."); THE AMERICAN HERITAGE DICTIONARY 1983 (3d ed. 1992) ("The finding of a jury in a trial."); THE COMPACT EDITION OF THE OXFORD ENGLISH DICTIONARY 3610 (1971) ("The decision of a jury in a civil or criminal cause upon a decision which has been submitted to their judgment.").

150. *Wells v. Ortho Pharmaceutical Corp.*, 615 F. Supp. 262, 292-94 (N.D. Ga. 1985), *aff'd*, 788 F.2d 741 (11th Cir.), *cert. denied*, 479 U.S. 950 (1986).

151. HUBER, GALILEO'S REVENGE, *supra* note 5, at 174.

152. See *Wells*, 615 F. Supp. at 269-91.

153. *Id.* at 269-73 (summarizing testimony of Dr. Bruce Buehler); *id.* at 272 & n.12 (noting that "Dr. Buehler also discussed the 1981 Jick article") (citing Hershel Jick et al., *Vaginal Spermicides and Congenital Disorders*, 245 JAMA 1329 (1981)).

154. *Id.* at 292 & n.38.



professional horror at the outcome of *Wells*. He offers, as examples of this repudiation, the comments of "one" of the authors, and then "another" of the authors, printed in letters to the journal that originally published the study.<sup>155</sup> But contrary to Huber's image of a unanimous retraction published by "the several authors," the Jick study in fact had nine authors, and only the two authors cited by Huber expressed any misgivings about their study. Worse still, in a joint letter, three other authors of the Jick study sharply criticized the "one" author (who had testified as a paid expert witness for the defendant in *Wells*) for being an advocate rather than a scientist, and strongly defended their original study.<sup>156</sup>

Most damning, Huber can hardly claim that he inadvertently overlooked the rejoinder written by these three authors. The joint letter not only appears on the same page of the same medical journal as the criticisms quoted by Huber; it is actually sandwiched in between the letters of "one" and "another" author.<sup>157</sup>

In sum, Huber displays remarkable powers of selective perception and recitation. In discussing cerebral palsy, Huber fails even to mention the repudiation by one of two authors of the key study he himself relies on in his analysis. But in discussing the *Wells* case Huber obsesses about a study's repudiation by two of nine authors and ignores a defense of the original study and a rebuttal to the criticism by three other authors of that study, even though this was only one of many studies cited by the plaintiffs, and even though the *Wells* case was decided by a district judge who ultimately chose not to consider *any* of the studies as evidence.

According to Huber, junk scientists "discard enough 'bad' data to make the remaining 'good' points look important. . . . Professional statisticians call this 'data dredging.'" <sup>158</sup> Huber's scholarship falls

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155. HUBER, GALILEO'S REVENGE, *supra* note 5, at 174.

156. The district court in *Wells* found that Huber's "one" author, Dr. Richard N. Watkins, was simply "not credible," finding it "perplexing that a physician would risk his professional reputation by signing his name to a study about which he had serious reservations," as Watkins claimed he did at the time of the study, and finding it suspicious that Watkins had waited four years, until he was a paid expert witness in court, to express these misgivings. *Wells*, 615 F. Supp. at 282. Similarly, the three authors who rebutted Watkins stated, in a joint letter, that, "Dr. Watkins has selectively reclassified the exposure status of exposed cases without engaging in a similar effort for exposed noncases. The technique is one used in advocacy, but it is not good science." Hershel Jick et al., *In Reply*, 256 JAMA 3095, 3095-96 (1986).

In defense of their original study, these three authors stated that since the study "[a] number of authors have found associations between spermicide use and both chromosomal anomalies and limb anomalies very close to those reported by us," and that "[i]n hindsight, we still believe that our report did address plausible hypotheses, was valid in its conception and conduct, was circumspectly reported, and is consonant with much material published both before and since." *Id.*

157. *Id.*

158. HUBER, GALILEO'S REVENGE, *supra* note 5, at 27.

short of the standards he sets for everyone else.

### 3. *Bendectin*

Huber frequently invokes the *National Enquirer* in his chapter on Bendectin.<sup>159</sup> Given Huber's enormous distortions of the scientific record on traumatically induced or aggravated cancer, on cerebral palsy, and on the *Wells* spermicide case, truly enquiring minds will be on the lookout for similar distortions in Huber's review of the Bendectin litigation.<sup>160</sup>

According to Huber, "[a] large volume of published epidemiological data has previously revealed no statistically significant association between Bendectin and birth defects."<sup>161</sup> Junk scientists, however, used a chilling off-the-cuff assessment that Bendectin is "like [T]halidomide," the terrible drug that caused babies to be born "with dolphinlike flippers,"<sup>162</sup> as well as "some scattered laboratory tests" and other tangential data, to come up with a theory that Bendectin also causes birth defects. As the subtitle to Huber's chapter relates, what followed was a "Massed Legal Attack"<sup>163</sup> in which Richardson-Merrell, Inc. (Merrell), the manufacturer of Bendectin, was subjected to ruinous litigation by greedy plaintiffs and their "villainous" lawyers.<sup>164</sup> These compatriots employed junk science to force a blameless company to pull a valuable antinausea product from the market.<sup>165</sup> Litigation continued for several more years before the company was finally vindicated by "wise" judges who ultimately concluded that such nonsense must end.<sup>166</sup>

Huber's tale is gripping, but has at least three major faults that prevent this chapter from being taken seriously as an analysis tending to establish Huber's thesis that "junk science" is common and represents the "most insidious" of all problems within our liability system. First is a pervasive flaw that by now is easily spotted in the book: Huber's hyperbolic, sarcastic, selective, anecdotal, *ad hoc* and at times *ad hominem* argument style, which makes for entertaining reading but leaves the reader wondering whether both sides of the

159. HUBER, GALILEO'S REVENGE, *supra* note 5, at 111-13, 129.

160. The author was counsel of record in one Bendectin case that reached the Supreme Court, *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 951 F.2d 1128 (9th Cir. 1991), *cert. granted*, 113 S. Ct. 320 (1992). The author has also assisted plaintiffs' attorneys (including Barry J. Nace, *see infra* note 167) in several other Bendectin cases, on petitions for certiorari and on briefs in federal courts of appeals.

161. HUBER, GALILEO'S REVENGE, *supra* note 5, at 113.

162. HUBER, GALILEO'S REVENGE, *supra* note 5, at 112.

163. HUBER, GALILEO'S REVENGE, *supra* note 5, at 111.

164. HUBER, GALILEO'S REVENGE, *supra* note 5, at 113-22.

165. *See* HUBER, GALILEO'S REVENGE, *supra* note 5, at 127.

166. *See* HUBER, GALILEO'S REVENGE, *supra* note 5, at 122-27.

story are being told. Huber's rhetorical technique is to string together news reports and court decisions so as to chronicle the history of the litigation in a manner that makes the scientific evidence proffered by plaintiffs look ridiculous, and the ethics of selected attorneys and experts involved on the plaintiffs' side appear reprehensible. Notably, there is no indication that Huber interviewed any of the plaintiffs' attorneys he goes out of his way to castigate, and in at least one instance Huber has declined to defend himself against detailed charges that his account of the Bendectin litigation is filled with "many misstatements" and that his understanding of the subject in general is "ridiculously immature."<sup>167</sup> A recent extensive review of the history of the Bendectin litigation written by Professor Joseph Sanders, who *did* take care to consult with main participants on both sides, covers many of the same events documented by Huber in an evenhanded manner that amply demonstrates the one-sided and partisan nature of Huber's analysis.<sup>168</sup>

Second, Huber erroneously invites the reader to conclude that, if it can be shown that plaintiffs' evidence on causation in Bendectin cases ultimately turned out by the late 1980s to be disproved by an overwhelming array of epidemiological studies, then the Bendectin claims must have been baseless, and pure "junk science," from the beginning. But there is no support for this view. Despite Huber's extended efforts to lampoon the early proof put forward by plaintiffs, as Professor Sanders has noted, "[w]e should expect that the science will be relatively poorly developed in the early stages of litigation," and that only later will litigation spur the production of "a richer body of scientific evidence."<sup>169</sup> As Professor Michael D. Green notes in a recent review of Bendectin evidence, "It is important to emphasize that . . . in 1977 when Bendectin litigation first began . . . there was a paucity of decent epidemiologic studies and unsettling animal studies regarding possible toxicity."<sup>170</sup> Professor

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167. Letter from Barry J. Nace, Esq., to Peter W. Huber, Esq. 1, 3 (Feb. 19, 1992) (on file with *The American University Law Review*). Mr. Nace, a respected trial lawyer serving as president of the Association of Trial Lawyers of America for 1993-1994, is one of the "villainous" lawyers portrayed throughout Huber's chapter in a most unflattering light. In his letter Nace noted that Huber had never contacted him in any manner, and he listed a variety of serious misrepresentations of the record. *Id.* at 1-4. In closing, Nace stated, "If you wish to debate this subject somewhere, just let me know. I would be happy to debate it with you . . . [e]ither from a scientific or legal standpoint—or both." *Id.* at 3. Fifteen months later, Nace had not received any response. Telephone Interview with Barry J. Nace, Esq. (May 19, 1993).

168. See Joseph Sanders, *The Bendectin Litigation: A Case Study in the Life Cycle of Mass Torts*, 43 HASTINGS L.J. 301, 311-86 (1992). The acknowledgement footnote to Sanders' article thanks W. Glenn Forrester, Merrell's lead in-house attorney, and Barry Nace, a prominent plaintiffs' attorney in Bendectin cases, for their help. *Id.* at 301 n.\*.

169. *Id.* at 331.

170. Green, *supra* note 61, at 677. Professor Green notes that these and other factors "led

Green concludes, in direct answer to the thesis set forth by Huber: "Bendectin did not begin, as some have said, as a case of avaricious lawyers pursuing a drug whose safety was well established over a long period of time by numerous solid scientific studies."<sup>171</sup>

The reason this is so, these scholars explain, is that the early Bendectin litigation must be placed in the context of both Merrell's lack of adequate original testing and the company's poor track record on the safety of its drugs and the integrity of its dealings with the FDA. Remarkably, prior to Merrell's marketing of Bendectin in 1956, no substantial safety testing was done on whether Bendectin might cause birth defects; the FDA required no testing, given that each of the three prescription components of Bendectin had previously been approved for use in adults.<sup>172</sup> Indeed, the prevailing scientific belief at this stage was that the womb was a safehouse against environmental dangers.<sup>173</sup> Conventional scientific wisdom proved to be wrong just a few years later, with "the appearance of an epidemic of limb-reduction malformations" in babies whose mothers had taken the "presumably harmless sedative-hypnotic drug [T]halidomide," which made clear the vulnerability of human embryos "to certain environmental agents even though these have negligible or no toxic effects in postnatal individuals."<sup>174</sup> The Thalidomide tragedy spurred the rapid development of teratology, the study of teratogens, or substances that produce malformations in human fetuses.<sup>175</sup>

Merrell happened to be the American licensee of Thalidomide and thus was implicated in the public concern surrounding that tragedy.<sup>176</sup> Even worse for Merrell's reputation, in the following

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plaintiffs' lawyers in the late 1970s and early 1980s to believe that they had a genuine mass toxic [tort case] staring them in the face," although based on the scientific record that emerged a decade later, he opines, it either "appears they were wrong" or that "Bendectin, if it has any teratogenic effect, has quite a weak one." *Id.* at 677 n.155.

171. *Id.*

172. Sanders, *supra* note 168, at 317, 321.

173. See James G. Wilson, *Current Status of Teratology*, in HANDBOOK OF TERATOLOGY 47, 47 (James G. Wilson & F. Clarke Fraser eds., 1977) (discussing 1940s view that womb was impervious to harmful influences). Although the embryos of amphibians, fish, and chickens had been shown "to be quite susceptible to unfavorable influences during development," these tests "were not generally accepted as purporting similar vulnerability for higher animals." *Id.* at 47. Instead, "[i]t was widely assumed in biology and in medicine that the mammalian embryo developed within the virtually impervious shelter of the uterus and the maternal body where it was protected from extrinsic factors." *Id.*

174. Wilson, *supra* note 173, at 48.

175. Wilson, *supra* note 173, at 48-49.

176. Merrell had attempted to convince the FDA that Thalidomide was safe to market in the United States, but FDA suspicion and delay resulted in Merrell being given only initial limited authorization for investigational use, thus sparing the American public the large number of deformed babies witnessed in other countries. Sanders, *supra* note 168, at 313-14. Still, even while it awaited what it hoped would be final FDA approval, Merrell "engaged in

year, 1962, the FDA discovered that Merrell had misrepresented numerous animal studies as demonstrating the complete safety of MER/29, an anti-cholesterol drug, when in fact Merrell knew that most animals exposed to the drug developed cataracts and other side effects.<sup>177</sup> Merrell nevertheless continued to market the drug for nearly two years while reports of identical injuries in humans accumulated.<sup>178</sup> As a result, Merrell and three of its scientists were indicted for lying to the FDA. The company subsequently received the maximum possible fine and its scientists received suspended sentences.<sup>179</sup> Merrell also paid tens of millions of dollars in damages as a result of civil litigation (including a sizable punitive damages award), settling more than 95% of the cases against it, and the widespread publicity understandably led to public condemnation of Merrell.<sup>180</sup>

Despite Huber's failure to address this history, Merrell's checkered past was obviously pivotal to the initial development of the Bendectin litigation. Once suspicion began growing during the 1970s among medical authorities that Bendectin might be a cause of birth defects,<sup>181</sup> and once it was learned that even after the MER/29 episode Merrell performed wholly inadequate testing of the safety of Bendectin and arguably hid negative results from the FDA, just as it did with MER/29,<sup>182</sup> it was hardly a stretch to "conclude[] that,

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what might charitably be called extremely lax behavior" in distributing 2.5 million Thalidomide pills to 20,000 persons, including 624 pregnant women, leading to at least ten deformed Thalidomide babies. *Id.* at 314.

177. Sanders, *supra* note 168, at 315.

178. Sanders, *supra* note 168, at 315-16.

179. Sanders, *supra* note 168, at 315-16.

180. Sanders, *supra* note 168, at 315-16; *see also* Toole v. Richardson-Merrell, Inc., 60 Cal. Rptr. 398, 404-08 (Ct. App. 1967) (summarizing voluminous evidence of Merrell's egregious actions); RALPH E. FINE, THE GREAT DRUG DECEPTION: THE SHOCKING STORY OF MER/29 AND THE FOLKS WHO GAVE YOU THALIDOMIDE 23, 151 (1972) (describing criminal proceedings against Merrell for falsifying scientific data submitted to FDA); Richard A. Merrill, *Compensation for Prescription Drug Injuries*, 59 VA. L. REV. 1, 40-43 (1968) (providing brief synopsis of five reported MER/29 cases); Paul D. Rheingold, *The MER/29 Story—An Instance of Successful Mass Disaster Litigation*, 56 CAL. L. REV. 116 (1968) (containing general summary of Merrell wrongdoing).

181. Sanders, *supra* note 168, at 317-18.

182. Merrell performed only limited and sporadic animal *in vivo* testing of Bendectin and ignored a researcher's suggestion that more testing be done, despite its recent history of problems with Thalidomide and MER/29. Sanders, *supra* note 168, at 333-36. These actions helped to "fuel speculation by plaintiffs that if they only dug deep enough, they would find a cover-up." *Id.* at 333 n.152. Moreover, "[t]he first epidemiologic study performed in 1963 by a Merrell employee and relied on by Merrell for fifteen years was so shoddy in method and interpretation that even Merrell has conceded its lack of validity; it has provided an inviting target for plaintiffs' attorneys' attacks and claims for punitive damages." Green, *supra* note 61, at 677 n.155.

Merrell's initial animal testing was so inadequate in light of the low dosages administered to the animals that one plaintiffs' expert in a recent trial termed the tests not only "useless," but "irresponsible." Transcript of Record at 49-50, *Havner v. Merrell Dow Pharmaceuticals, Inc.*

with respect to this firm, where there was smoke there must be fire," and that there was strong ground to believe that Merrell was implicated in yet a third harmful drug and was again covering up known, serious risks.<sup>183</sup> Huber simply makes no effort to demonstrate that, *in light of what was known when the Bendectin litigation commenced*, the early cases can be condemned as "junk science."

Third and finally, beyond the inadequacy of Huber's discussion of the early stage of the Bendectin litigation, Huber also fails to address enough of the substance of the Bendectin litigation in its mature state so that the reader can adequately assess the nature of the controversy and reach his or her own conclusion about whether legitimate scientific issues exist. Such a project is well beyond the scope of this Article, but the shallow and one-sided nature of Huber's analysis can readily be grasped by comparing his chapter with the analysis of Professor Sanders<sup>184</sup> and with portions of the briefs and Joint Appendix analyzing the nature of the four different types of data in the Bendectin case recently considered by the U.S. Supreme Court.<sup>185</sup>

Within the scope of this Article, it is important to note one central flaw in Huber's framework of analysis. As to Merrell's central defense in these cases, Huber is correct that a significant number of epidemiological studies have been published on Bendectin, none of which (in the view of the authors of those studies) individually establishes with "statistical significance" at the 95% certainty level that Bendectin is linked to birth defects.<sup>186</sup> Indeed, three separate federal courts of appeals have given this characterization of the epidemiological record determinative weight in ruling against Bendectin

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(Tex. 214th Dist. Ct. Sept. 27, 1991) (No. 88-3915-F). Evidence exists that even at these low doses the tests indicated that Bendectin was a teratogen, *id.* at 51-52, and that in reaction to those results Merrell researchers doctored the raw data and substituted a sanitized version to the FDA that either understated or completely failed to report malformations in the fetuses of several animals receiving doses of Bendectin, *id.* at 30-41, actions arguably typical of a company as to which the FDA stated in reaction to the MER/29 incident: "[W]e cannot consider information submitted by this firm as reliable without thorough verification." *Id.* at 58. This and similar evidence led in a recent case to the entry of a \$15 million punitive damages award against Merrell (on compensatory damages of \$3.75 million), after full post-trial review. See Final Judgment in *Havner* (No. 88-3915-F) (now on appeal).

183. Sanders, *supra* note 168, at 316.

184. Sanders, *supra* note 168, at 321-48.

185. See Brief for Petitioners at 2-12, *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (U.S. Dec. 2, 1992) (No. 92-102) (summarizing nature of evidence in Bendectin cases); Joint Appendix at 53-207, *Daubert* (No. 92-102) (reprinting affidavits of plaintiffs' experts in *Daubert*); Brief for Respondent at 2-9, 35-48, *Daubert* (No. 92-102) (rebutting opening brief); Joint Appendix at 31-44, *Daubert* (No. 92-102) (reprinting affidavit of defendant's expert in *Daubert*); Reply Brief of Petitioners at 2-5, *Daubert* (No. 92-102) (answering respondent's factual analysis).

186. HUBER, GALILEO'S REVENGE, *supra* note 5, at 113.

plaintiffs.<sup>187</sup>

But Huber rests too readily on these holdings for his analysis to withstand scrutiny. Apart from a failure to give serious attention to the testimony of a number of experts on plaintiffs' side who evaluate the epidemiological data in light of other sources of information on the drug,<sup>188</sup> Huber ignores the elementary point that any failure of epidemiology to establish the 95% certainty level in no way affirmatively demonstrates the *safety* of Bendectin. Far from there being a consensus on the safety of Bendectin based on extant epidemiological studies, the U.S. Court of Appeals for the Sixth Circuit recently observed in a Bendectin case that Merrell "overstates the persuasive power of these statistical studies," that these studies are "by no means conclusive," and that "[a]n analysis of this evidence demonstrates that it is possible that Bendectin causes birth defects even though these studies do not detect a significant association."<sup>189</sup> Contrary to the impression left by Huber's chapter, the current status of Bendectin litigation in the lower federal courts reveals a serious controversy within the scientific community and the courts on causation, not a set of claims that plausibly may be termed "junk science."<sup>190</sup>

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187. See *Brock v. Merrell Dow Pharmaceuticals, Inc.*, 874 F.2d 307, 313-15, *modified*, 884 F.2d 166 (5th Cir. 1989), *cert. denied*, 494 U.S. 1046 (1990); *Richardson v. Richardson-Merrell, Inc.*, 857 F.2d 823, 829-32 (D.C. Cir. 1988), *cert. denied*, 493 U.S. 882 (1989); *Lynch v. Merrell-National Lab.*, 830 F.2d 1190, 1196-97 (1st Cir. 1987). The Ninth Circuit in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 951 F.2d 1128 (9th Cir. 1991), *cert. granted*, 113 S. Ct. 320 (1992), cited these cases approvingly but based its holding against the plaintiffs on the failure of one of their experts to publish her epidemiological opinion, not on the absence of a "statistically significant" epidemiological study standing alone. *Id.* at 1130.

188. See *supra* notes 184-85 (providing analyses of chemical structure and *in vitro* and *in vivo* animal data).

189. *Turpin v. Merrell Dow Pharmaceuticals, Inc.*, 959 F.2d 1349, 1357 (6th Cir.), *cert. denied*, 113 S. Ct. 84 (1992); see also *DeLuca v. Merrell Dow Pharmaceuticals, Inc.*, 911 F.2d 941, 945-49 (3d Cir. 1990) (expressing similar caution about overstating value of epidemiological data); Brief of Professor Kenneth Rothman et al. as Amici Curiae in Support of Petitioners, *Daubert* (No. 92-102) (characterizing concept of statistical significance as "misleading," "never descriptive," and imprecise when analyzing epidemiological data).

Although the Sixth Circuit found in *Turpin*, with respect to the animal data on Bendectin, that "[a]nimal studies often comprise the backbone of evidence indicating biological hazards, and their legal value has been recognized by federal courts and agencies," the court determined that on the basis of the specific expert affidavits proffered in that case, the evidence was insufficient to go to the jury. *Id.* at 1360.

190. As the Sixth Circuit summarized the case law as of March, 1992, "Four federal circuits have held that plaintiffs failed as a matter of law to establish causation . . . [but] other courts have either denied or reversed on appeal grants of summary judgment for [Merrell] in eight cases." *Turpin*, 959 F.2d at 1351-52 (citations omitted). The existence of two sides on the issue is concretely illustrated by the results of the 1985 multidistrict common issues trial that resolved more than 800 Bendectin cases, in which the Sixth Circuit observed that "the jury verdict following trial here might have been for the plaintiffs instead of for the defendant," *In re Bendectin Litig.*, 857 F.2d 290, 325 (6th Cir. 1988), *cert. denied*, 488 U.S. 1006 (1989), and in which the district court had earlier observed, "Both sides presented testimony

C. *The Unwillingness To Acknowledge Inconvenient Facts Necessary to "the Truth, the Whole Truth, and Nothing but the Truth"*

Huber fails the third test of good science and good scholarship: the willingness "to try to give all of the information to help others to judge the value of your contribution; not just the information that leads to judgment in one particular direction or another."<sup>191</sup> Willful failure to take note of evidence in a given article that conflicts with predetermined views is one kind of data dredging;<sup>192</sup> obdurate failure to even mention other articles or other examples that undermine one's hypothesis is another. "Sins of omission are less obvious, but no less common."<sup>193</sup>

Huber is intimate with this sin. He bends over backwards to highlight supposed malfeasance by plaintiffs, their lawyers, and their experts, while failing to examine parallel examples of possible corporate wrongdoing.<sup>194</sup> There is good reason to worry that corporate scientists owe their allegiance to their employers first and to truth second, and that whistleblowers who reverse this scheme of priorities may be quickly shown the door.<sup>195</sup>

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of eminently qualified and highly credible experts who differed in regard to the safety of Bendectin." *In re Richardson-Merrell, Inc.*, 624 F. Supp. 1212, 1244 (S.D. Ohio 1985).

Indeed, several years later Chief Judge Rubin, the trial judge in the multidistrict case, refused Merrell's request for summary judgment in other individual cases, stating that "the Court is convinced that there are genuine issues of fact which preclude entry of summary judgment." *In re Bendectin Prods. Liab. Litig.*, 732 F. Supp. 744, 749 (E.D. Mich. 1990). Other judges have rejected out of hand the exclusive focus on epidemiology adopted by some circuits to throw out plaintiffs' claims. See *Wilson v. Merrell Dow Pharmaceuticals, Inc.*, 893 F.2d 1149, 1155 (10th Cir. 1990) (concluding that each side presented sufficient expert testimony to create conflict and that jury alone has power to weigh evidence and determine which witnesses are more credible); *Longmore v. Merrell Dow Pharmaceuticals, Inc.*, 737 F. Supp. 1117, 1120 (D. Idaho 1990) (rejecting resort to supposedly "overwhelming" statistical data in order "to bulldoze aside the plaintiffs' experts").

191. HUBER, GALILEO'S REVENGE, *supra* note 5, at 207 (quoting RICHARD FEYNMAN, SURELY YOU'RE JOKING, MR. FEYNMAN! 311-12 (1986)).

192. See HUBER, GALILEO'S REVENGE, *supra* note 5, at 27 (explaining that professional statisticians call process of disregarding "bad" data to make "good" data appear more important "data dredging").

193. HUBER, GALILEO'S REVENGE, *supra* note 5, at 207.

194. See generally HUBER, GALILEO'S REVENGE, *supra* note 5, at 75-168 (discussing various case studies focusing on failings of plaintiffs and plaintiffs' attorneys without mentioning failings of corporations).

195. See, e.g., JUDITH SWAZEY & STEPHEN R. SCHER, WHISTLEBLOWING IN BIOMEDICAL RESEARCH 110-40 (1982) (discussing policies and procedures used by corporations in response to reports of misconduct in biomedical research).

If, as Huber insists, money is what drives junk science, it stands to reason that huge multinational corporations with ample resources and considerable liability exposure are more likely to sponsor junk science than are individual plaintiffs' lawyers. To cite but one example, the *Journal of Occupational Medicine*, a neutral-sounding journal, is published by the American College of Occupational Medicine, also conveying an impression of neutrality. One issue of that journal (Vol. 33, No. 12, Jan.-Dec. 1991) is devoted to "Managing the Conduct and Quality of Epidemiologic Studies," a neutral-sounding topic, and one of obvious interest to members of both the plaintiffs' and defense bars. But a cursory review of the affiliations of the



Huber hardly makes a stab at being evenhanded. He reserves ninety-nine percent of his rhetorical ammunition and every one of the seven chapters of *Galileo's Revenge* that are devoted to specific examples of junk science to horror stories involving *plaintiffs'* experts.<sup>196</sup> Huber does briefly acknowledge that "[e]ven asbestos and the Dalkon Shield have become part of the junk science story."<sup>197</sup> Still, even these concessions, necessary to preserve even a patina of objectivity, are made in the most perfunctory and misleading manner. Huber writes:

From the beginning of World War II through the 1970s, about ten million people were exposed to high levels of asbestos in the workplace. Today, good science confirms that heavy exposure to asbestos multiplies the lung-cancer risks you otherwise face by roughly five to seven times. The Dalkon Shield plays in similar leagues. Soon after worldwide marketing began in 1971, doctors observed that its users were developing pelvic inflammatory disease (PID) six to ten times as often as other women. Both Robins, manufacturer of the Shield, and Manville, a major supplier of asbestos, were driven into bankruptcy. As any knowledgeable scientist will attest, both sold products that caused great harm.<sup>198</sup>

Huber describes these subjects as "impossibly delicate, tragic, and charged with emotion."<sup>199</sup> To be sure, the agonizing deaths of hundreds of thousands of workers from asbestos<sup>200</sup> and the lingering health problems of tens of thousands of women due to the Dalkon Shield<sup>201</sup> are "tragic, and charged with emotion."<sup>202</sup> But

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*Journal of Occupational Medicine's* editorial board, and of the authors of each article in this issue, reveals that this ostensibly academic, scientific, and thus objective periodical is something other than it appears to be. Both the editor and associate editor of the *Journal* at the time of this issue were employed by major chemical manufacturers or industrial companies. The same is true of at least four of the other ten members of the editorial board. Similarly, with few exceptions, the authors of each article in this issue, which aims to set the criteria for undertaking and evaluating epidemiologic studies, are also employed by major chemical, pharmaceutical, or industrial manufacturers.

196. For example, Huber concedes, as he inevitably must, that "[y]es, the scientists at the drug and chemical companies may sometimes advance the interests of their employers by shrugging off serious scientific evidence of real problems." HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 188. He similarly concedes that, professional witnesses "work[] consistently for one side (insurance companies) or the other (plaintiffs' lawyers)." *Id.* at 20.

197. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 152.

198. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 152.

199. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 152.

200. See *Failure To Regulate Asbestos: A Lethal Legacy? Hearings Before House Subcomm. of the Comm. on Gov't Operations*, 98th Cong., 1st Sess. 8 (1983) (statement of William J. Nicholson, Environmental Sciences Library) (noting that from 1980 onward there will be 350,000 premature deaths resulting from asbestos-related cancers that developed between 1940 and 1980).

201. See MORTON MINTZ, *AT ANY COST: CORPORATE GREED, WOMEN, AND THE DALCON SHIELD 4* (1985) (noting that many of 800,000 to one million women implanted with Dalkon Shield suffer from such health problems as spontaneous miscarriages, septic abortions, and fatal abortions).

202. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 152.

these injuries, both individually and collectively, are more than "tragic" accidents or lamentable mishaps. These injuries and deaths are scandalous, not because "Robins . . . and Manville . . . both sold products that caused great harm," but because these companies sold those products for years (in the case of the Dalkon Shield) or decades (in the case of asbestos) *with full knowledge* that they "caused great harm."<sup>203</sup> That is the reason why Robins and Manville "were driven into bankruptcy": juries awarded plaintiffs huge sums in punitive damages not just because "both sold products that caused great harm" but because both companies knew that they caused great harm and kept silent; knew that they caused great harm and repeatedly denied the harm; knew that they caused great harm but withheld evidence and instructed the scientists employed by these companies to keep their mouths shut; and knew that they caused great harm but continued selling the products anyway.<sup>204</sup>

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203. HUBER, GALILEO'S REVENGE, *supra* note 5, at 152.

204. HUBER, GALILEO'S REVENGE, *supra* note 5, at 152. As early as 1933, a Manville scientist informed his employer that workers who installed asbestos as insulation in buildings suffered much higher rates of asbestosis. See PAUL BRODEUR, OUTRAGEOUS MISCONDUCT: THE ASBESTOS INDUSTRY ON TRIAL 111-14 (1985) (detailing actions taken by Johns-Manville to try to suppress asbestosis findings). Manville took no action, other than ordering the information to be suppressed. *Id.* During the course of decades-long litigation against Manville and other asbestos manufacturers, processors, and distributors, plaintiffs' attorneys uncovered evidence that, among other things: (1) animal tests begun in 1943 revealed that insulation products containing low levels of asbestos could cause lung disease, *id.* at 143; (2) Manville knew in the 1950s that insulators and pipe coverers working with asbestos were at greatly increased risk of developing asbestosis, *id.* at 99; and (3) in 1947, scientists had warned the Asbestos Textile Institute (comprised of Manville and other asbestos suppliers and fabricators) that workers who endured long exposure to asbestos at levels previously considered safe were at increased risk of asbestosis. *Id.* at 143. Perhaps most damning of all, Manville scientists were part of the callous deception. *Id.* at 102-03. For example, in 1948, the medical director of a wholly owned Manville subsidiary undertook an industrial hygiene survey that revealed that only less than 1%, or 4 of 708, of surveyed asbestos workers had healthy, normal lungs. *Id.* The medical director successfully urged a corporate coverup:

It must be remembered that although these men have the X-Ray evidence of asbestosis, they are working today and definitely are not disabled from asbestos. They have not been told of this diagnosis . . . . When he becomes disabled and sick, then the diagnosis should be made and the claim submitted by the Company. The fibrosis of this disease is irreversible and permanent so that eventually compensation will be paid to each of these men. But as long as the man is not disabled it is felt that he should not be told of his condition so that he can live and work in peace and the Company can benefit from his many years of experience.

*Id.* Manville, and others, continued to market asbestos long after receiving these warnings, while failing to warn purchasers and users of these known risks. See, e.g., *Borel v. Fibreboard Paper Prods. Corp.*, 493 F.2d 1076, 1086 (5th Cir. 1973) (noting that plaintiff introduced evidence tending to establish that defendant manufacturers were, or should have been, fully aware of multitude of studies and articles on asbestos, and that evidence also indicated defendants did not warn any workers of danger), *cert. denied*, 419 U.S. 869 (1974).

Regarding the Dalkon Shield, plaintiffs' attorneys proved that by at least 1972, Robins either knew or should have known that the medical data upon which it relied in promotional literature to establish the effectiveness of the Dalkon Shield was patently wrong. MINTZ, *supra* note 201, at 86. That same year, Robins began receiving reports from concerned physicians from around the United States about deaths and life-threatening injuries being caused by the

In his discussion of asbestos and the Dalkon Shield, rather than focusing on such decades-long corporate malfeasance, Huber attempts to neutralize these episodes by changing the subject. He highlights the conduct of those whom he regards as the real villains: plaintiffs' experts who ostensibly "minimize the role of other, even more important and widespread causes of identical injuries,"<sup>205</sup> such as cigarette smoking (which causes more cancer and lung disease than asbestos), and sexual promiscuity (which is the source of more cases of pelvic inflammatory disease than IUDs).<sup>206</sup> Thus, "there is ample room for junk science even when one is dealing with real hazards and grave harms."<sup>207</sup>

What is so striking about Huber's selection of case studies is that he would not have needed to look long or hard to find possible examples of junk science practiced by corporate defendants, by the lawyers hired by those defendants, or by the experts retained by those corporations or those corporations' lawyers. In addition to presenting a truthful account of the scandals involving asbestos and the Dalkon Shield, Huber could easily have reported on strong evidence of corporate fraud and criminality<sup>208</sup> implicating corporate-sponsored scientists.<sup>209</sup> These examples include, but are not lim-

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Shield. *Id.* at 149-72. Robins officials suppressed these reports and continued to market the Shield. *Id.*

In upholding an award of \$7.5 million in punitive damages to a single victim of the Dalkon Shield, one state's highest court summarized Robins' systematic distortion of science and its extreme indifference to anything other than its own bottom line as follows:

[N]ot only was there substantial evidence to conclude that Robins fully comprehended, by 1974 at the latest, the enormity of the dangers it had created, but that it deliberately and intentionally concealed these dangers; that it put money into "favorable" studies; that it tried to neutralize any critics of the Dalkon Shield; that Robins was motivated by a desire to avoid litigation rather than a concern for the safety of the users of the Dalkon Shield; that it consistently denied the dangers of the Dalkon Shield for fifteen years after the original marketing of the Dalkon Shield; that it commissioned studies on the Dalkon Shield which it dropped or concealed when the results were unfavorable; and, ultimately, that it consigned hundreds of documents to the furnace rather than inform women that the Dalkon Shield carried inside their bodies was a bacterial time bomb which could cause septic abortions, PID [pelvic inflammatory disease], and even death.

*Tettuan v. A.H. Robins Co.*, 738 P.2d 1210, 1240 (Kan. 1987) (emphasis added).

The most that Huber has to say about these outrages is that "Robins [the manufacturer of the Dalkon Shield] and Manville [the largest asbestos processor] had obviously done serious wrong in covering up the hazard, or so many juries concluded." HUBER, GALILEO'S REVENGE, *supra* note 5, at 154. Huber, who does not hesitate to harshly reproach the testimony of any plaintiffs' expert or to sternly scold any plaintiff for taking part in self-destructive behavior like smoking, is unusually reticent about drawing any conclusions himself.

205. HUBER, GALILEO'S REVENGE, *supra* note 5, at 152.

206. HUBER, GALILEO'S REVENGE, *supra* note 5, at 152-55.

207. HUBER, GALILEO'S REVENGE, *supra* note 5, at 152.

208. To unearth such evidence, Huber would not have had to dig deep into history to find examples of a wave of junk science verdicts, as was necessary in his chapter on "The Midas Touch" (on "cancer-by-pothole"). Instead, all Huber needed to do was read his daily newspaper, for the examples discussed below are truly the stuff of everyday headlines.

209. See generally ROBERT BELL, IMPURE SCIENCE: FRAUD, COMPROMISE, AND POLITICAL IN-

ited to, the following.

(1) TOBACCO. The tobacco industry has continually insisted (long after every scientist not in their employ had come to the opposite conclusion) that smoking is risk free. The U.S. Surgeon General's 1986 report on the harmful effects of passive smoking, however, found:

The data reviewed in 17 previous U.S. Public Health Service Reports on the health consequences of smoking have conclusively established cigarette smoking as the largest single preventable cause of premature death and disability in the United States.

The question whether tobacco smoke is harmful to smokers was answered more than twenty years ago.<sup>210</sup>

But the tobacco industry, backed by numerous research reports authored by scores of scientists employed by the industry-funded Tobacco Institute, disputed this answer. The industry insisted that the question remains open. Thus, on March 12, 1982, Edward J. Harrigan, the chair of the Tobacco Institute's Executive Committee and the chair and CEO of the R.J. Reynolds Tobacco Co., declared that "[a]fter three decades of investigation and millions of dollars invested, the smoking and health controversy remains unresolved. The net result of all this effort has been that no causal link between smoking and disease has been established."<sup>211</sup>

Subsequent research has revealed that what Harrigan politely called a "controversy" might be more aptly described as a conspiracy to hide, distort, and falsify evidence, a conspiracy against tobacco smokers, their families, and the public health. Indeed, one federal judge described it as follows:

Evidence presented by the plaintiff, particularly that contained in documents of the defendants themselves, indicates the development of a public relations strategy aimed at combatting the mounting adverse scientific reports regarding the dangers of

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FLUENCE IN SCIENTIFIC RESEARCH 105-82 (1992) (discussing moral and ethical aspects of widespread fraud and corruption in U.S. corporate scientific research); WILLIAM BROAD & NICHOLAS WADE, *BETRAYERS OF TRUTH: FRAUD AND DECEIT IN THE HALLS OF SCIENCE* 140-63 (1983) (exposing corporate-sponsored fraud in scientific research). Examples of systematic fakery and fraud by individual scientists in pursuit of personal fame and private profit also abound. See, e.g., BELL, *supra*, at 106-10, 113-42 (highlighting examples of scientific fraud by individual scientists); BROAD & WADE, *supra*, at 140-63 (noting instances of individual deceit by some corporate scientists); David Goodstein, *Scientific Fraud*, 60 AM. SCHOLAR 505, 505-15 (1991) (examining ethical implications of scientific fraud by scientists corrupted by political influence and personal greed).

210. REPORT OF THE SURGEON GEN., *THE HEALTH CONSEQUENCES OF INVOLUNTARY SMOKING* vii (1986).

211. *Comprehensive Smoking Prevention Education Act: Hearings Before the Subcomm. on Health and the Environment of the House Comm. on Energy and Commerce*, 97th Cong., 2d Sess. 353 (1982) (statement of Edward Harrigan, chair of the Tobacco Institute's Executive Committee).

smoking. The evidence indicates further that the industry of which these defendants were and are a part entered into a sophisticated conspiracy. The conspiracy was organized to refute, undermine, and neutralize information coming from the scientific and medical community and, at the same time, to confuse and mislead the consuming public in an effort to encourage existing smokers to continue and new persons to commence smoking.<sup>212</sup>

Subsequent discovery by the plaintiffs in that same case further revealed the depths of that conspiracy as well as the active, knowing complicity of industry-paid scientists and corporate research departments in furtherance of that conspiracy. That discovery disclosed that beginning in 1954,

[The tobacco industry] sought to discredit or neutralize the adverse information [about the dangers of smoking] by proffering an independent research organization . . . which purportedly would examine the risks of smoking and report its finding to the public. . . . [T]he industry research which might indict smoking as a cause of illness was diverted to secret research projects and . . . the publicized efforts were primarily directed at finding causes other than smoking for the illnesses being attributed to it.

. . . [T]he industry's announcement of proposed independent research into the dangers of smoking and its promise to disclose its findings was nothing but a public relations ploy—a fraud—to deflect the growing evidence against the industry . . . .

. . . .

. . . Despite the industry's promise to engage independent researchers to explore the dangers of cigarette smoking and to publicize their findings, the evidence clearly suggests that the research was not independent . . . [and] that the attorney-client privilege was intentionally employed to guard against . . . unwanted disclosure [of adverse research results] . . . .<sup>213</sup>

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212. *Cipollone v. Liggett Group, Inc.*, 683 F. Supp. 1487, 1490 (D.N.J. 1988), *aff'd in part and rev'd in part*, 893 F.2d 541, 546-47 (3d Cir. 1990).

213. *Haines v. Liggett Group, Inc.*, 140 F.R.D. 681, 683-84 (D.N.J. 1992). It should be noted that on a motion by the tobacco company defendants, the author of the *Haines* opinion, District Judge H. Lee Sarokin, was removed from the case on account of this strong language and its compromise of the appearance of impartiality—although in taking this course the Third Circuit stressed that it did not doubt Judge Sarokin's actual impartiality and fairness and his outstanding abilities. *Haines v. Liggett Group, Inc.*, 975 F.2d 81, 97-98 (3d Cir. 1992); *see also* *Cipollone v. Liggett Group, Inc.*, 799 F. Supp. 466, 466 (D.N.J. 1992) (containing Judge Sarokin's recusal of himself from another case, and commentary on Third Circuit's order in *Haines*).

A recent front-page story in the *Wall Street Journal* provided additional documentation of what that newspaper termed "the longest-running misinformation campaign in U.S. business history . . .," a systematic campaign to enlist some scientists to discredit others, and so to deceive consumers and government regulators, all in an effort to protect the safety of corporate profit-making. *See* Alix M. Freedman & Laurie P. Cohen, *How Cigarette Makers Keep Health Question 'Open' Year After Year*, WALL ST. J., Feb. 11, 1993, at 1, 6. The Council for Tobacco

(2) **PFIZER HEART VALVES.** Pfizer Pharmaceutical's anxiety about profits and sales of Bjork-Shiley Convexo-Concave heart valves may have overridden its concern about the lives of the patients involved. Thus, the company continued to market the valves four years after its inventor warned that such a course of action would be "'tanta-mount to murder.'"<sup>214</sup> According to a December 1990 internal report by an FDA task group that investigated the misconduct of Pfizer and its Shiley subsidiary,

"During the c/c [Convexo-Concave] valve's history, Shiley engaged in efforts to thwart FDA's intervention by untimely reports of [valve] fractures, unreported changes in quality control and manufacturing procedures, failure to correct known poor manufacturing procedures, and minimization of the overall problem through misleading and confusing communications to FDA and the medical community."<sup>215</sup>

By the time Pfizer finally pulled the valves from the market in 1986, more than 82,000 valves had been implanted worldwide, leaving those patients facing a terrible choice between dangerous replacement procedures and living with the knowledge of a potential defect.<sup>216</sup> By 1992, the valve defects had caused over 500 deaths and resulted in a class action settlement amounting to between \$165 and \$215 million, or \$500,000 to \$2 million per valve fracture.<sup>217</sup>

(3) **HALCION.** According to critics, Upjohn's own financial worries led it to withhold critical information from the FDA about dangerous side effects of Halcion, a prescription sleeping pill it manufactured and marketed.<sup>218</sup> The reported side effects ranged

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Research (CTR) has been the primary advocate for the tobacco industry by producing studies that cast doubt on whether smoking is a health hazard and by disregarding or cutting off studies of its own that likely would have linked tobacco to health problems. *Id.* at 1. The CTR not only engages in research, but also lobbies for the tobacco industry with the assistance of public relations firms and cigarette manufacturers. *Id.* at 6.

214. See Greg Rushford, *Pfizer's Tell-Tale Heart Valve*, LEGAL TIMES, Feb. 26, 1990, at 1, 11 (noting that Swedish press reported in March 1982 that Bjork, product's inventor, was concerned about valves and suggested discontinuance of product).

215. BELL, *supra* note 209, at 167 (quoting FOOD & DRUG ADMIN., TASK GROUP REPORT ON BJORK SHILEY HEART VALVE AND SHILEY CORP. (1990)). See generally Christine Gorman, *Can Drug Firms Be Trusted?*, TIME, Feb. 10, 1992, at 42, 42 (discussing merit of fraud allegations against medical supply and drug manufacturers); Greg Rushford, *Pfizer's Smoking Gun?*, LEGAL TIMES, Feb. 6, 1992, at 1 (referring to internal corporate report, generated in response to FDA investigation, documenting that Pfizer "continued to produce and sell thousands of mechanical heart valves even after it knew of the structural weaknesses and sloppy manufacturing").

216. Barry Meier, *Flawed Heart Valve Is Presenting Patients with Harrowing Choice*, N.Y. TIMES, Mar. 14, 1992, § 1, at 1.

217. Milt Freudenheim, *Settlement Approved on Pfizer Heart Valves*, N.Y. TIMES, Aug. 20, 1992, at D4.

218. See Gina Kolata, *Maker of Sleeping Pill Hid Data on Side Effects, Researchers Say*, N.Y. TIMES, Jan. 20, 1992, at A1 [hereinafter Kolata, *Maker of Sleeping Pill*] (reporting critics' allegations that Upjohn concealed report from FDA demonstrating that Halcion could cause serious

from amnesia, paranoia, depression, and hallucinations to suicide and murder.<sup>219</sup> Although reports linking Halcion to adverse side effects first appeared in the medical literature in 1979 and concerns were confirmed by the medical community in the late 1980s, Upjohn, in its own studies, subtly concealed adverse findings, later claiming that any errors were merely "clerical" or "trivial."<sup>220</sup>

(4) LEAD. For decades, the lead industry has obstructed efforts undertaken by university researchers, consumer-, environmental- and child-protection public interest groups, and government agencies charged with public health and safety to learn about and prevent lead poisoning.<sup>221</sup> According to a recent report,

Responses of the lead-producing and lead-using industries and their allies to the growing scientific case against lead constitute a useful case study in how established economic interests react to scientific evidence threatening their activities. Originally, . . . the bearers of adverse information were seemingly intimidated on an ad hoc, individual basis. When adverse information on lead exposure and human intoxication could not be contained "one-on-one" during the 1970s and 1980s, the industry abruptly took the tack of seeming cooperation. It cultivated a simulacrum of concerned, responsible "objectivity," expanded and established its

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psychiatric side effects). Halcion is, or at least was, the "world's best selling sleeping pill," sold by Upjohn in the United States since 1983 and in markets in 89 other countries and representing some 8% of Upjohn's sales (approximately \$200 million for the first three quarters of 1991). Gina Kolata, *F.D.A. Panel Recommends Keeping Sleeping Pill on Market*, N.Y. TIMES, May 19, 1992, at C3; Kolata, *Maker of Sleeping Pill*, *supra*, at A1.

219. See William Styron, *Prozac Days, Halcion Nights: Profits and Pills*, NATION, Jan. 4, 1993, at 1, 1 (detailing author's personal experiences with Halcion); see also Stein, *Our Man in Nirvana*, N.Y. TIMES, Jan. 22, 1992, at A21 (detailing similar negative experiences with Halcion). By way of example, a Utah woman who shot her mother eight times and then placed a birthday card in her hand claimed that Halcion caused her behavior. *The Price of a Good Night's Sleep*, N.Y. TIMES, Jan. 26, 1992, § 4, at 9. The woman not only avoided prosecution, but won an out-of-court settlement against Upjohn. *Id.* In another case, a jury awarded a family \$1.8 million (later reduced) in a suit against Upjohn alleging that Halcion had caused a family member to turn violent and murder his best friend. *Id.*

220. Kolata, *Maker of Sleeping Pill*, *supra* note 218, at A1; see Joseph W. Moch, *Halcion: The Hotbed of Controversy Continues*, 15 TRIAL DIPL. J. 101, 103-04 (1992) (describing various studies of Halcion). A *Washington Post* editorial raised related questions:

[A]s a slice of regulatory history, the Halcion story, like the story of breast implants, is a troubling one. How is it that some safety studies identified by the FDA as "pivotal" were conducted by a confessed fraud whom the agency had disqualified before the drug's approval? . . . How did Upjohn come to underreport adverse reactions? (The FDA is investigating this.) And what is one to make of continuing allegations that the manufacturer failed to give regulators complete information pertaining to safety and that the FDA in turn failed to review adequately the data in its possession?

*The Halcion File*, WASH. POST, May 21, 1992, at A24; see also Gorman, *supra* note 215, at 42 (discussing charge against Upjohn for falsifying evidence of Halcion's safety).

221. See Herbert L. Needleman, *Childhood Lead Poisoning: Man-Made and Eradicable*, 2 PSR Q. 130, 133 (1992) (noting that lead industry threatened researchers that claimed lead to be hazardous by attempting to prevent publication of their studies, threatening them with lawsuits, and alleging that their studies violated ethical standards).

own research programs and conferences, and heavily intruded into the regulatory evaluation process itself.

Science evolves, but it evolves imperfectly; in its early jerky thrusts at the truth of a matter, there is considerable uncertainty about research results, their meaning, and their consequences. The 1970s and early 1980s typified this period for lead as a scientific research topic, and industry exploited this uncertainty exhaustively and effectively. The multidefense industry position now seemed to say: Our experts don't agree that lead exposure has occurred, but if it has our experts don't agree that the exposure produces significant public health problems, but if it does our experts say it is not extensive enough in the population to worry about. Current industry strategy, having apparently given up on a science that continued to indict lead as a major health issue, apparently relies on economics and cost-effectiveness: Lead is too important an economic commodity to regulate; what's more, the costs of existing lead abatement are too high for the benefits.<sup>222</sup>

(5) AIR POLLUTION. The automobile industry attempted to suppress pioneering research on air pollution. In 1950, Arie J. Haagen-Smit, a professor of biochemistry at the California Institute of Technology, made what was then a novel discovery: air pollution from cars and oil refineries causes smog.<sup>223</sup> The oil and auto industries saw Haagen-Smit's research findings as a potential threat to their economic well-being and proceeded to try to debunk Haagen-Smit

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222. Paul Mushak, *The Landmark Needleman Study of Childhood Lead Poisoning: Scientific and Social Aftermath*, 2 PSR Q. 165, 169 (1992) (reporting on landmark 1979 study on neurotoxic effects of low levels of lead on very young children). "Apparent" acceptance and "apparent" cooperation are not the only tactics followed by the lead industry.

Given [the lead] industry's complex strategy, the [pioneering] Needleman study posed special difficulties. . . . Not surprisingly, the industry launched persistent assaults on the Needleman study. In the early 1980s, these included misrepresenting, via wide publicity, technical evaluation of the Needleman study by the EPA's advisory consultants. More recently, the industry has supported efforts of others attacking the Needleman results and Needleman personally. In this regard, suspicion of misconduct charges were filed against him. After an extended investigation of the charges by the University of Pittsburgh, Needleman was cleared on misconduct charges.

*Id.* (footnote omitted); see Herbert L. Needleman et al., *Deficits in Psychologic and Classroom Performance of Children with Elevated Denture Lead Levels*, 300 NEW ENG. J. MED. 689, 689 (1979) (reporting that children with high levels of exposure to lead did not score as well on intelligence test as children with lower lead levels); Joseph J. Palca, *Get-the-Lead-Out Guru Challenged*, 253 SCIENCE 842, 842 (1991) (discussing alleged misconduct in scientific study of effects of low-level lead on human development); Gary Putka, *Professor's Data on Lead Levels Cleared by Panel*, WALL ST. J., May 27, 1992, at B5 (reporting claim by Needleman's attorney that University of Pittsburgh investigators found no evidence of fraud in scientists' lead poisoning studies); see also Joseph Palca, *Panel Clears Needleman of Misconduct*, 256 SCIENCE 1389, 1389 (1992) (reporting that University of Pittsburgh panel cleared Needleman of charges of scientific misconduct).

223. Mark Thompson, *Fighting for Cleaner Air*, ATLANTIC, Sept. 1988, at 20, 23.



as a junk scientist.<sup>224</sup> To that end,

The Stanford Research Institute, employed by one of the [oil] industry's trade associations, quickly claimed to have found fundamental flaws in Haagen-Smit's methods and conclusions. In 1953 the auto industry entered the arena, beginning its own research program on the ground that the situation was too obscure to assign blame.<sup>225</sup>

(6) CHOCOLATE. At times, corporate zeal to use captive "scientific research organizations" to hoodwink both unaffiliated scientists and the unassuming public takes on ludicrous dimensions. For example, the Princeton Dental Resource Center suggested to dentists that their patients eat chocolate as a way of fighting tooth decay.<sup>226</sup> Newsletters from this center reported that eating chocolate could possibly inhibit cavities.<sup>227</sup> What the newsletters failed to mention, however, was that the Princeton Dental Resource Center was financed almost entirely by Mars Inc., manufacturer of M&Ms and Snickers and Milky Way candy bars.<sup>228</sup> The newsletter also failed to explain that only one ingredient found in chocolate—cocoa—had been pegged by researchers as a possible cavity-fighting substance, because beneficial tannins could be isolated from the cocoa.<sup>229</sup> Any benefits in the case of chocolate candy, however, would be completely offset by ingredients like sugar.<sup>230</sup>

(7) THE MONEY LURE. More generally, for years both university researchers and government regulators have worried that the often cozy relationships between industries and industry-funded but ostensibly neutral research centers might be a bit too cozy, bordering on (or crossing over into) systematic fraud, deceit, and corruption.<sup>231</sup> Huber seems to be one of the few who is not concerned

224. *Id.* at 22-23.

225. JAMES E. KRIER & EDMUND URSIN, *POLLUTION AND POLICY* 7 (1977).

226. Barry Meier, *Report Touting Chocolate as Cavity-Fighter Derided*, BALTIMORE SUN, Apr. 15, 1992, at A1; see Calvin Trillin, *Exposing Chocolate Therapy*, ATLANTA J. & CONST., Apr. 27, 1992, at A13 (describing newsletter sent to dentists' offices extolling cavity-fighting properties of chocolate).

227. Meier, *supra* note 226, at A1.

228. Meier, *supra* note 226, at A1.

229. Meier, *supra* note 226, at A1.

230. Meier, *supra* note 226, at A1.

231. See Warren E. Leary, *Business and Scholarship: A New Ethical Quandary*, N.Y. TIMES, June 12, 1989, at A1 ("Scientists, administrators, and lawmakers are increasingly worried that the lure of money threatens to compromise the quality and conduct of scientific and medical research."); see also Barry I. Castleman & Grace E. Ziem, *Toxic Pollutants, Science, and Corporate Influence*, 44 ARCHIVES ENVTL. HEALTH 68, 68 (1989) (claiming that chemical manufacturers had significant influence over determination of threshold limit values that were used to develop ambient air quality standards for their chemicals); Barbara J. Culliton, *Biomedical Research Enters the Marketplace*, 304 NEW ENG. J. MED. 1195, 1196-97 (1981) (discussing factors contributing to growth of ties between academia and industry); David F. Noble & Nancy E. Pfund, *Business Goes Back to College*, 231 NATION 233, 251-52 (1980) (claiming that universities

about the relationship between industry and research centers. Huber is either completely oblivious to these connections or is completely indifferent to their import. Huber's lack of concern about the money lure that threatens to compromise the integrity of medical and scientific research is odd, given his obsession with arguing that plaintiffs' lawyers corrupt the experts they hire.<sup>232</sup> Huber's failure to note, let alone discuss, any of the above examples must be seen for what it surely is: bias. Such bias in the subjects Huber has chosen *not* to write about, combined with his distorted rendering of those events he *has* chosen to write about, as well as his unwillingness to provide any quantitative assessment of the junk science epidemic, means that Huber fails each of the three tests of good science and good scholarship that he sets out as appropriate for others.

### III. HUBER'S DUBIOUS LEGAL ANALYSIS IN *GALILEO'S REVENGE*

In the concluding chapter of *Galileo's Revenge*, Peter Huber offers his solution to the problems he outlined in the earlier chapters. Unfortunately, Huber's prescription is no better than his diagnosis. His proposal for curing what he regards as the raging and ravaging

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are influenced by industry and rejecting notion that industry funding is no different than government funding); Jeff Bailey, *Dueling Studies: How Two Industries Created a Fresh Spin on the Dioxin Debate*, WALL ST. J., Feb. 20, 1992, at 1 (attributing recent doubts as to danger of dioxins to public relations campaigns by paper and chlorine industries and recognizing lack of attention paid to research that considers dioxins to be extremely dangerous).

Blurring of the line between business and scholarship is hardly the only problem. See Lawrence K. Altman, *Study Says Drug Ads in Medical Journals Frequently Mislead*, N.Y. TIMES, June 1, 1992, at A1 [hereinafter Altman, *Drug Ads Frequently Mislead*] (asserting that pharmaceutical companies often provide misleading advertisements regarding safety and effectiveness of drugs); *Pushing Drugs to Doctors*, CONSUMER REP., Feb. 1992, at 87, 87-89 (reporting that drug companies employ sophisticated marketing techniques to sell their drugs to doctors); G. Pascal Zachary, *Many Journalists See a Growing Reluctance To Criticize Advertisers: They Say Some Newspapers, Suffering Tough Times, Are Softening Coverage*, WALL ST. J., Feb. 6, 1992, at A1 (noting that newspapers and magazines display increased aversion to screening out advertisements for deceptive claims or to publishing news that might offend advertisers).

232. For example, Huber posits: "Junk science is impelled through our courts by a mix of opportunity and incentive. 'Let-it-all-in' legal theory creates the opportunity. The incentive is money: the prospect that the Midas-like touch of a credulous jury will now and again transform scientific dust into gold." HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 3. According to Huber, no one is immune from the trial lawyers' blandished lure: "'You get a professor who earns \$60,000 a year and give him the opportunity to make a couple of hundred thousand dollars in his spare time and he will jump at the chance' . . ." *Id.* at 19 (citation omitted). Similarly, good scientists are hooked into becoming junk scientists:

A witness may not work directly for a contingent fee, but the expert is a contingent player anyway, and he knows it. His continued employment today, and reemployment tomorrow, depends critically on the strength of the support he can supply. . . . He can earn hundreds of dollars an hour, hundreds of thousands a year. For all practical purposes, he is working on a contingency fee, though the contingent nature of his employment and compensation will always be angrily denied. Where have we seen this character before? In his employer's office. He is the spit and image of a trial lawyer.

*Id.* at 18, 20.

epidemic of junk science is as superficial as his analysis of what is wrong with the existing state of affairs: good science will only triumph, *can* only triumph, with the helping hand of "wise judges" who must make sure, through the reinvigoration of the *Frye* rule and other means, that "scientific bamboozlers" are not allowed to bamboozle the common folk who sit on juries.<sup>233</sup> Huber's nostrums cannot be taken seriously. Specifically, Huber completely distorts the historical significance of the "*Frye* rule" and its supposed past importance in combating "junk science" in civil lawsuits, and he totally ignores the traditional role of the jury in resolving factual issues.

#### A. *The Fictitious History of the "Frye Rule"*

Huber's oft-mentioned prescription for solving the junk science problem is quite simple: supplant the now-fashionable "let-it-all-in" philosophy supposedly embodied in the Federal Rules of Evidence with the once-fashionable "let-only-the-good-stuff-in" philosophy supposedly incarnated in the common-law *Frye* rule.<sup>234</sup> This course would fence off the courtrooms from the ivory-tower theorists who designed the existing rules of evidence that incorporate the "let-it-all-in" world view; the unsuspecting members of Congress who enacted statutory rules that embody that outlook; and the spineless judges who, heedless of their duties and of the overall needs of society, permit junk science into the courtroom.

Huber's description of the *Frye* rule, of how its elimination prompted the rise of junk science, and thus of how its rebirth would help destroy junk science, bears close examination. As will hereafter be noted, there is little truth in any of the very precise claims that Huber makes about *Frye*.

The prominence of the *Frye* rule in Huber's analysis of the legal roots of the current junk science problem is evident in chapter one of *Galileo's Revenge*. Huber asserts that in the "good old days" of evidence law, courts limited the roles of experts hired by the parties:<sup>235</sup>

[T]he rules of evidence embodied the same cautious respect for

233. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 193, 223-25 (concluding that judicial search for most authoritative scientific evidence prevents fraudulent "snake-oil peddlers" from demeaning judicial process).

234. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 14-17, 201 (asserting that *Frye* rule represents best way to determine if expertise is based on objective experience).

235. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 13-17 (decrying desultory path down slippery slope toward junk science by recounting that where judges once applied stricter standards regarding expert witnesses, 18th-century America witnessed beginning of erosion of those standards, culminating in loose, junk science standards).

tradition as did the liability rules themselves. Experts were not given a free hand to speculate; their function was to convey the consensus views of their profession. . . . If expert witnesses were unconstrained by professional tradition and consensus, malpractice was as likely to be promoted on the witness stand as deterred at the defense table. Once again, a balance had to be struck between the need to police incompetence outside the courtroom and the risk of rewarding incompetence within.<sup>236</sup>

Huber writes that it was in this context that the *Frye* rule emerged to do battle with junk science:

In 1923 a federal appellate court issued a landmark ruling in *Frye v. United States* aimed at accommodating these competing concerns. Thereafter, federal courts, widely copied by the states, were bound by the *Frye* rule, which allowed experts into court only if their testimony was founded on theories, methods, and procedures "generally accepted" as valid among other scientists in the same field. In deferring to the scientific community, the rule conceded the courts' own limits. *Frye* marked a reasonable compromise between a populist rejection of all expertise and what was to follow, the equally populist view that experts are everywhere and there's no choosing among them.<sup>237</sup>

True, Huber notes that "[l]ike all verbal standards the *Frye* rule could be bent, and it sometimes was," for example, by "[c]harlatans of many stripes" who even in the time of *Frye* would "go through the motions of serious science," attempting to qualify their testimony by setting up their own societies committed to subjects such as whether "trace ambient pollutants cause narcolepsy."<sup>238</sup> "But *Frye* did at least serve a hortative purpose, stiffening the judge's spine and steeling his nerves when a brash scientific iconoclast presented himself at the courthouse. *Frye* held out the hope that, with the help of determined judges, the legal consensus would in time converge with the scientific one."<sup>239</sup> This thinking led Huber to the following conclusions:

From 1923 until the mid-1970s, the *Frye* rule made some attempt to hold expert witnesses to [accepted standards and consensus norms]. Certainly not to anything better than mainstream scientific norms, but the rule did at least refer to competent science as defined by the consensus views of a profession. Under *Frye*, the expert witness could report only learning that was "generally accepted" in his scientific discipline. Negligence, incompe-

236. HUBER, GALILEO'S REVENGE, *supra* note 5, at 14.

237. HUBER, GALILEO'S REVENGE, *supra* note 5, at 14.

238. HUBER, GALILEO'S REVENGE, *supra* note 5, at 14.

239. HUBER, GALILEO'S REVENGE, *supra* note 5, at 14.

tence, irresponsibility, reckless disregard for professional standards, and every other variation on professional malpractice were as unacceptable on the witness stand as they were anywhere else.<sup>240</sup>

In Huber's view, the downfall of the *Frye* rule led directly to the rise of junk science: "*Frye* held sway until the 1970s, when it collided with the high ambition of the Calabresians" and their pessimism about technology and its dangers.<sup>241</sup> "*Frye* seemed to give mainstream science the final word" on the apparent dangers of such technology, but "[i]t seemed utterly perverse to many in the legal community that the consensus views of the very professions causing all the problems might stand in the way of legal solutions. Viewed from any angle, *Frye* clearly threatened to cut short the great Calabresian search for cheap, wide-ranging control" of risks.<sup>242</sup> *Frye* was therefore targeted for elimination.<sup>243</sup>

Lawyers couldn't change what mainstream science maintained, but they could decide whether mainstream science mattered. That is exactly what they did. Some courts candidly stopped screening experts altogether. Others simply created majorities by gerrymander, defining "scientific communities" narrowly and uncritically. One way or another, judges gave up on the possibility of drawing firm lines between serious science and junk. When the Federal Rules of Evidence were first codified in 1975, they made no mention of *Frye* whatsoever. Expert testimony would be allowed, thenceforth, "[i]f scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact." Mainstream scientific consensus didn't matter any more. Social engineering in the courtroom would find its support wherever convenient; any iconoclast whose views might prove "helpful" to the jury would be welcome in court.

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The academics (as academics are prone to do) have continued to debate *Frye*'s demise long after the debate has ceased to be of any practical importance. Some insist that *Frye* still lives; others that it is dead and buried; others that, dead or alive, *Frye* no longer makes any practical difference. But with *Frye* certifiably absent from the rules of evidence, the academics might as well be debat-

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240. HUBER, GALILEO'S REVENGE, *supra* note 5, at 176-77.

241. See HUBER, GALILEO'S REVENGE, *supra* note 5, at 15 (asserting that Calabresian lawyers changed standard on whether mainstream science had legal significance).

242. HUBER, GALILEO'S REVENGE, *supra* note 5, at 15.

243. See HUBER, GALILEO'S REVENGE, *supra* note 5, at 15 (implying that objections to *Frye* rule arose from its threat to Calabresian control of expert witness standards and insinuating that *Frye* came under attack and was ignored in codification of Federal Rules of Evidence in 1975).

ing the survival of Elvis Presley in the indubitably silent halls of Graceland. Whether or not *Frye* still lives, the conviction is gone, the music has died. Most courts have slouched toward what federal judge Patrick Higginbotham dubs the let-it-all-in approach to expert testimony. By the 1980s, countless courts had opened their doors wide to claims based on methods or theories not generally accepted as reliable by any scientific discipline.<sup>244</sup>

As would be expected, Huber identifies the resurrection of the *Frye* rule as a necessary part of any serious attempt to overcome the evils of junk science in the courtroom.<sup>245</sup> In chapter eleven of *Galileo's Revenge*, entitled "Stopping Points: Confronting Malpractice on the Witness Stand," Huber explains that the renewed use of the *Frye* test is integral to respecting "Science as Consensus,"<sup>246</sup> and to "Holding Witnesses to a Common Standard."<sup>247</sup> "[S]cience has changed profoundly since the days of Galileo," Huber explains, for "Galileo had limited opportunities to belong to a larger community of scientists."<sup>248</sup> Since the founding in 1660 of what eventually became London's Royal Society, "all science in the West has been built up through collegiality and consensus—and a concomitant decline in the role of the hermit scientist."<sup>249</sup> Modern science "is no longer linked to any single theory or result; it is a process of replication and verification, a search for consensus"; it "is not a solitary undertaking."<sup>250</sup>

Huber argues that "[t]he methods of science are so fundamentally different from those of litigation that scientific anarchy in court is inevitable if rules of evidence are not strictly maintained."<sup>251</sup> Therefore, he urges:

[J]udges must rediscover rules of evidence consonant with the essential collegiality of modern science. Such rules are not self-evident, nor can they be implemented mechanically, nor will they work their intended effect in the hands of jurists who hold science itself in no real respect. But rules can be formulated, and even modest rules, if enforced with evenhanded conviction and some measure of faith in the scientific method, will make a positive difference.<sup>252</sup>

244. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 15-17.

245. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 204-06 (urging judges to take control of expert testimony in trials by preventing admission of testimony from "privileged interlopers" in favor of testimony from established experts).

246. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 194.

247. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 198.

248. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 194, 196.

249. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 196.

250. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 196-97.

251. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 197.

252. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 198.

As Huber explains, the view that science is defined by the community was the fundamental insight of the old *Frye* rule:

*Frye* directed the focus away from the individual, whatever his credentials might be, and toward the scientific consensus. Define the relevant community whose consensus views should prevail. Then require expert witnesses to report not their own, personal views, but the consensus views of that community.

Applying the test is not always simple; there will always be room for quibbling. Any definition of "the relevant scientific community" will be somewhat arbitrary. But despite what some lawyers maintain, it isn't terribly difficult to decide which community of scientists to consult on Bendectin, cerebral palsy, or sudden acceleration.<sup>253</sup>

Thus, under Huber's conception, the *Frye* rule was a tool that allowed judges to select the community of scientists who "know" the answer to a particular scientific question, and then to demand that each scientist testifying simply report the "consensus" of scientists on the issue at hand.<sup>254</sup> This is obviously an incredibly powerful tool for reining in the use of junk science. Under this standard, the only facts that can be "proved" are those that are accepted by a consensus of the scientific community favored by the judge.<sup>255</sup>

A telltale sign of the weakness of Huber's analysis is that throughout his extensive discussion of *Frye*, Huber provides no citations to support his version of the birth, growth, death, and possible new rise of the *Frye* rule. Close examination reveals that, in fact, virtually nothing that Huber says about *Frye* is true. From 1923 through the 1970s, *Frye* was never used to enforce scientific consensus on issues of scientific facts. *Frye* was never a tool for fighting junk science, especially in civil tort litigation. And as of 1991, when *Galileo's Revenge* was published, *Frye* was alive and well within its original limited

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253. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 199. Huber continues:

The expert whose testimony is not firmly anchored in some broader body of objective learning is just another lawyer, masquerading as a pundit.

The challenge, then, is to determine when the anchor is secure. The only possible test is to confirm that other boats have favored similar moorings. The only way to tell that expertise is based on objective experience is to see whether others with similar experience favor similar methods, adopt similar procedures, embrace similar theories, and reach similar conclusions. That is pretty much the standard articulated decades ago by *Frye*.

*Id.* at 204.

254. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 199-200, 201 (referring to reality that judges choose pools of experts, such as physicians from Mayo Clinic, based on subjective standards, but that these standards are commonsense reflection of which scientists constitute consensus community and that stating applicable consensus for use in court is simple matter).

255. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 199, 201 (noting that *Frye* rule directed focus toward scientific consensus and that judges often apply *Frye* according to their own standards).

context; the "music" had not died at all.<sup>256</sup>

In reality, *Frye* was simply a federal criminal case in which the U.S. Court of Appeals for the D.C. Circuit, in the exercise of its specific common-law authority to prescribe rules of evidence for federal criminal trials "in the light of general authority and sound reason,"<sup>257</sup> addressed the admissibility of expert testimony setting forth the results of a "systolic blood pressure deception test," a rudimentary precursor to the modern polygraph.<sup>258</sup> The D.C. Circuit, in a remarkably casual analysis, announced a conservative approach to the evaluation of novel scientific techniques:

Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized, and while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.<sup>259</sup>

In the half-century that followed, many federal courts applied the common-law *Frye* rule in other criminal trials, not to throw out the particular factual conclusions of an expert as falling outside the consensus in his or her field, but to bar any expert from resorting to certain kinds of new scientific techniques, such as "voiceprints, neutron activation analysis, gunshot residue tests, bitemark comparisons, sodium pentothal, scanning electronic microscopic analysis, and numerous other forensic techniques," before they had gained general acceptance by the relevant scientific community.<sup>260</sup> During

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256. See *infra* notes 265-67 and accompanying text (referring to courts' continued use of *Frye* rule).

257. See *Rosen v. United States*, 245 U.S. 467, 470-71 (1918) (following *Benson v. United States*, 146 U.S. 325, 334-35 (1892), which observed that sound reason, not common practice, should guide courts in determining reasons for allowing or denying expert testimony). The Supreme Court set forth the proposition that competency of witnesses in criminal trials is governed by common-law principles as interpreted and applied by the federal courts "in the light of reason and experience." *Wolfe v. United States*, 291 U.S. 7, 12 (1934). Congress confirmed this power by incorporating *Wolfe* into the Federal Rules of Criminal Procedure. FED. R. CRIM. P. 26 advisory committee's note; see also *Hawkins v. United States*, 358 U.S. 74, 76-77 (1958) (recounting that Congress confirmed Supreme Court's authority to determine admissibility of evidence in rule 26).

Under rule 26, as it existed before the 1975 passage of the Federal Rules of Evidence, federal courts were free to fashion common-law evidence rules for criminal cases as long as they were consistent with the Federal Rules of Criminal Procedure. See *Elkins v. United States*, 364 U.S. 206, 216 (1960) (acknowledging that Court's supervisory power to devise evidentiary rules is governed by considerations of rule 26).

258. *Frye v. United States*, 293 F. 1013, 1013 (D.C. Cir. 1923).

259. *Id.* at 1014.

260. Paul C. Giannelli, *The Admissibility of Novel Scientific Evidence: Frye v. United States, A Half Century Later*, 80 COLUM. L. REV. 1197, 1205-06 (1980).



that same period, and well before the rise of the Calabresians in the 1970s, commentators rejected the *Frye* rule as overly vague and unduly restrictive in denying juries useful evidence.<sup>261</sup>

Consistent with its origins, *Frye* has served almost exclusively as a rule limited to the criminal law context. *Frye* has been predicated on a concern for the impact that novel forms of scientific investigation might have in criminal litigation, given the stakes involved in such cases.<sup>262</sup> Thus, sixty-four of the sixty-seven reported federal appellate decisions analyzing the admissibility of scientific evidence under

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261. See PAUL C. GIANNELLI & EDWARD J. IMWINKELREID, *SCIENTIFIC EVIDENCE* 13-14 (1986) (noting that "the [*Frye*] general acceptance test has been rejected by an increasing number of courts and attacked by commentators, who have labelled the test 'infamous,' 'a sport,' 'archaic,' and 'antiquated on the day of its pronouncement'"). Dean McCormick cataloged the attack on the *Frye* rule in the first edition of his hornbook. See CHARLES T. MCCORMICK, *HANDBOOK OF THE LAW OF EVIDENCE* § 170, at 363 (1954) ("'General scientific acceptance' is a proper condition upon the court's taking judicial notice of scientific facts, but not a criterion for the admissibility of scientific evidence."). He further stated that "[a]ny relevant conclusions which are supported by a qualified expert witness should be received unless there are other reasons for exclusion." *Id.*

Other commentators have continued to attack the *Frye* rule. See, e.g., Margaret A. Berger, *United States v. Scop: The Common-Law Approach to an Expert's Opinion About a Witness's Credibility Still Does Not Work*, 55 BROOK. L. REV. 559, 559 (1989) ("Wigmore, McCormick, and other eminent commentators . . . complained for decades about common-law restrictions on opinion evidence that deprived triers of fact of valuable information needed for sounder adjudications."); George C. Pratt, *A Judicial Perspective on Opinion Evidence Under the Federal Rules*, 39 WASH. & LEE L. REV. 313, 314 (1982) (stating that opinion rules reflect "enlightened, academic view of opinion testimony" that developed over 50-year period, but recognizing that there have been numerous objections to opinion testimony rules since their adoption); Jack B. Weinstein, *Improving Expert Testimony*, 20 U. RICH. L. REV. 473, 476-77 (1986) (stating that "as technology advanced and expert testimony became more important in the resolution of increasingly complex litigation, unnecessary impediments became unacceptable," and noting that "it became clear that the *Frye* rule might block the introduction of important and useful testimony").

262. See *United States v. Addison*, 498 F.2d 741, 743-44 (D.C. Cir. 1974) (urging that *Frye* standard has essential function of assuring that value of novel forensic techniques, such as voiceprints, can be intelligently contested by both sides in criminal trial). The court asserted that "the *Frye* test protects prosecution and defense alike by assuring that a minimal reserve of experts exists who can critically examine the validity of a scientific determination in a particular case." *Id.* *Frye* also helps prevent possible unfairness to defendants by placing additional burdens on the prosecution when novel scientific evidence is offered. See *United States v. Brown*, 557 F.2d 541, 556 (6th Cir. 1977) (stating that *Frye* presents protection of defendant's interest in fair trial that is not protected when prosecution need not meet such high evidentiary standards). The Sixth Circuit went on to proclaim:

A courtroom is not a research laboratory. The fate of a defendant in a criminal prosecution should not hang on his [or her] ability to successfully rebut scientific evidence which bears an 'aura of special reliability and trustworthiness,' although, in reality the witness is testifying on the basis of an unproved hypothesis in an isolated experiment which has yet to gain general acceptance in its field.

*Id.*; see also *United States v. Fleishman*, 684 F.2d 1329, 1336-37 (9th Cir.) (finding defendant's reliance on *Frye* rule as arising out of "concern[] with the possible prejudice to the defendant's right to a fair trial of admitting testimony of purported experts based upon insufficiently substantiated scientific theories, techniques or tests" inapposite to case at bar), *cert. denied*, 459 U.S. 1044 (1982); Giannelli, *supra* note 260, at 1244 ("The underlying problem is that the 'burden of rebuttal is generally borne in these criminal cases by defendants without the economic means to marshal scientific witnesses for a battle of the experts.'") (quoting concurring opinion in *State v. Williams*, 388 A.2d 500, 506 (Me. 1978)).

*Frye* were criminal cases.<sup>263</sup> The theory that the *Frye* rule served for

263. The following federal appellate criminal cases cite *Frye* as a general test for the admissibility of scientific evidence: *United States v. Todd*, 964 F.2d 925, 930-31 (9th Cir. 1992); *United States v. Jakobetz*, 955 F.2d 786, 793-97 (2d Cir.), *cert. denied*, 113 S. Ct. 104 (1992); *United States v. Hadley*, 918 F.2d 848, 853 (9th Cir. 1990), *cert. dismissed*, 113 S. Ct. 486 (1992); *United States v. Two Bulls*, 918 F.2d 56, 57-61 (8th Cir. 1990); *United States v. Boise*, 916 F.2d 497, 503-04 (9th Cir. 1990), *cert. denied*, 111 S. Ct. 2057 (1991); *United States v. Smith*, 869 F.2d 348, 350-55 (7th Cir. 1989); *United States v. Gillespie*, 852 F.2d 475, 480-81 (9th Cir. 1988); *Bundy v. Dugger*, 850 F.2d 1402, 1421 (11th Cir. 1988), *cert. denied*, 488 U.S. 1034 (1989); *United States v. Christophe*, 833 F.2d 1296, 1297-1300 (9th Cir. 1987); *United States v. Kozminski*, 821 F.2d 1186, 1194-95, 1198-1219 (6th Cir. 1987), *aff'd in part and remanded in part*, 487 U.S. 931 (1988); *Little v. Armontrout*, 819 F.2d 1425, 1427-32 (8th Cir. 1987), *cert. denied*, 487 U.S. 1210 (1988); *United States v. Shorter*, 809 F.2d 54, 59-61 (D.C. Cir.), *cert. denied*, 484 U.S. 817 (1987); *United States v. Kimberlin*, 805 F.2d 210, 217 n.3 (7th Cir. 1986), *cert. denied*, 483 U.S. 1023 (1987); *United States v. Gwaltney*, 790 F.2d 1378, 1381-82 (9th Cir. 1986), *cert. denied*, 479 U.S. 1104 (1987); *United States v. McBride*, 786 F.2d 45, 49 (2d Cir. 1986); *United States v. Metzger*, 778 F.2d 1195, 1203-04, 1205 (6th Cir. 1985), *cert. denied*, 477 U.S. 906 (1986); *United States v. Ferri*, 778 F.2d 985, 988-90 (3rd Cir. 1985), *cert. denied*, 476 U.S. 1172 (1986); *United States v. Smith*, 776 F.2d 892, 898 (10th Cir. 1985); *United States v. Davis*, 772 F.2d 1339, 1345-47 (7th Cir.), *cert. denied*, 474 U.S. 1037 (1985); *United States v. Solomon*, 753 F.2d 1522, 1526 (9th Cir. 1985); *United States v. Downing*, 753 F.2d 1224, 1232-38 (3d Cir. 1985); *United States v. Gould*, 741 F.2d 45, 48, 49 n.2 (4th Cir. 1984); *United States v. Torniero*, 735 F.2d 725, 731 n.9 (2d Cir. 1984), *cert. denied*, 469 U.S. 1110 (1985); *United States v. Lewellyn*, 723 F.2d 615, 619 (8th Cir. 1983); *United States v. Valdez*, 722 F.2d 1196, 1200-02 (5th Cir. 1984); *United States v. Fleishman*, 684 F.2d 1329, 1336-37 (9th Cir.), *cert. denied*, 459 U.S. 1044 (1982); *United States ex rel. DiGiacomo v. Franzen*, 680 F.2d 515, 517 n.2 (7th Cir. 1982); *United States v. Tranowski*, 659 F.2d 750, 755-57 (7th Cir. 1981); *United States v. McFillin*, 713 F.2d 57, 60-61 (4th Cir.), *cert. denied*, 454 U.S. 1056 (1981); *McMorris v. Israel*, 643 F.2d 458, 462 (7th Cir. 1981), *cert. denied*, 455 U.S. 967 (1982); *United States v. Distler*, 671 F.2d 954, 960-62 (6th Cir.), *cert. denied*, 454 U.S. 827 (1981); *United States v. Fosher*, 590 F.2d 381, 383 (1st Cir. 1979); *United States v. Williams*, 583 F.2d 1194, 1197-98 (2d Cir. 1978), *cert. denied*, 439 U.S. 1117 (1979); *Hughes v. Mathews*, 576 F.2d 1250, 1258 (7th Cir.), *cert. dismissed sub nom. Israel v. Hughes*, 439 U.S. 801 (1978); *United States v. Kilgus*, 571 F.2d 508, 510 (9th Cir. 1978); *United States v. McDaniel*, 538 F.2d 408, 412-13 (D.C. Cir. 1976); *United States v. Alexander*, 526 F.2d 161, 163-64 (8th Cir. 1975); *United States v. Carter*, 522 F.2d 666, 685 n.67 (D.C. Cir. 1975); *United States v. Franks*, 511 F.2d 25, 33 n.12 (6th Cir.), *cert. denied*, 422 U.S. 1042 (1975); *United States v. Addison*, 498 F.2d 741, 743-45 (D.C. Cir. 1974); *United States v. Amaral*, 488 F.2d 1148, 1152 (9th Cir. 1973); *United States v. Stifel*, 433 F.2d 431, 436-41 (6th Cir. 1970), *cert. denied*, 401 U.S. 994 (1971); *Marks v. United States*, 260 F.2d 377, 382 (10th Cir. 1958), *cert. denied*, 358 U.S. 929 (1959); *Lindsey v. United States*, 237 F.2d 893, 896 (9th Cir. 1956); *Medley v. United States*, 155 F.2d 857, 860 (D.C. Cir.), *cert. denied*, 328 U.S. 873 (1946).

The following federal appellate criminal cases cite *Frye* for its specific holding on the admissibility of polygraph tests: *United States v. Piccinonna*, 885 F.2d 1529, 1531-37 (11th Cir. 1989); *Brown v. Darcy*, 783 F.2d 1389, 1391, 1394-97 (9th Cir. 1986); *United States v. Black*, 684 F.2d 481, 483 (7th Cir.), *cert. denied*, 459 U.S. 1043 (1982); *United States v. Clark*, 622 F.2d 917, 917 (5th Cir. 1980), *cert. denied*, 449 U.S. 1128 (1981); *United States v. Bad Cob*, 560 F.2d 877, 882 n.10 (8th Cir. 1977); *United States v. Marshall*, 526 F.2d 1349, 1360 (9th Cir. 1975), *cert. denied*, 426 U.S. 923 (1976); *United States v. Oliver*, 525 F.2d 731, 736 (8th Cir. 1975), *cert. denied*, 424 U.S. 973 (1976); *United States v. Baller*, 519 F.2d 463, 466 (4th Cir.), *cert. denied*, 423 U.S. 1019 (1975); *United States v. Cochran*, 499 F.2d 380, 393 (5th Cir. 1974), *cert. denied*, 419 U.S. 1124 (1975); *United States v. Skeens*, 494 F.2d 1050, 1053 (D.C. Cir. 1974); *United States v. Frogge*, 476 F.2d 969, 970 (5th Cir.), *cert. denied*, 414 U.S. 849 (1973); *United States v. Alexander*, 471 F.2d 923, 955 n.85 (D.C. Cir.), *cert. denied sub nom. Murdock v. United States*, 409 U.S. 1044 (1972); *United States v. De Betham*, 470 F.2d 1367, 1368 (9th Cir. 1972), *cert. denied*, 412 U.S. 907 (1973); *United States v. Parman*, 461 F.2d 1203, 1205 n.5 (D.C. Cir. 1971); *United States v. Brown*, 461 F.2d 134, 145 n.1 (D.C. Cir. 1971); *United States v. Tremont*, 351 F.2d 144, 146 (6th Cir. 1965), *cert. denied*, 383 U.S. 944 (1966); *McCroskey v. United States*, 339 F.2d 895, 897 (8th Cir. 1965); *United States v. McDewitt*, 328

decades as a bulwark against junk science in a wide range of civil tort litigation simply holds no water. If that were true, for example, it would be difficult to understand how Huber's panorama of "cancer-by-pothole" cases, along with a number of other junk science cases ridiculed in *Galileo's Revenge* and decided in the heyday of *Frye* before the flowering of the "let-it-all-in" philosophy, could ever have emerged. In reality, despite Huber's credit of *Frye* as a tool against junk science and his claim that the Calabresians destroyed *Frye* as part of the 1975 Federal Rules of Evidence, there is not a single case decided by the federal appellate courts prior to 1975 that applied the *Frye* rule in a civil case of any kind. As of April 7, 1993, only three such decisions had been reported, two of which were decided in 1991.<sup>264</sup>

Moreover, there is nothing to Huber's claim that, as of the 1991 publication date of *Galileo's Revenge*, the *Frye* rule was dead. In fact, a total of nine circuits recognize *Frye* as a valid rule for excluding evidence, at least in criminal cases.<sup>265</sup> Only two circuits reject the use of the *Frye* rule.<sup>266</sup> Similarly, at the state level, at least twenty states

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F.2d 282, 284 (6th Cir. 1964); *Tyler v. United States*, 193 F.2d 24, 31 (D.C. Cir. 1951), *cert. denied*, 343 U.S. 908 (1952).

This summary of the federal appellate history of the *Frye* rule was laid out in an amicus brief filed in the U.S. Supreme Court by several states in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* Brief of the State of Texas et al. as Amici Curiae at 2 n.1, *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (U.S. Dec. 2, 1992) (No. 92-102). Neither party and none of the numerous amici in *Daubert* questioned the accuracy of the summary.

264. See *Barrel of Fun, Inc. v. State Farm Fire & Casualty Co.*, 739 F.2d 1028, 1031 (5th Cir. 1984) (employing *Frye* to overturn district court's admission of type of "voice stress analysis" in civil diversity case involving insurance claim, but failing to consider propriety of imposing *Frye* in civil case); see also *Christophersen v. Allied-Signal Corp.*, 939 F.2d 1106, 1115-16 (5th Cir.) (employing *Frye* to determine that district court was within its discretion to exclude medical expert's testimony in civil case where that testimony was not generally accepted within relevant scientific community), *cert. denied*, 112 S. Ct. 1280 (1991); *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 951 F.2d 1128, 1129-30 (9th Cir. 1991) (using *Frye* to exclude epidemiological re-analysis studies in civil suit), *cert. granted*, 113 S. Ct. 320 (1992).

265. See *United States v. Hudley*, 918 F.2d 848, 853 (9th Cir. 1990) (stating that *Frye* test is appropriate test for determining admissibility of novel scientific technique), *cert. dismissed*, 113 S. Ct. 486 (1992); *United States v. Two Bulls*, 918 F.2d 56, 60 & n.7 (8th Cir. 1990) (applying both *Frye* test and rule 702 as compatible tests for admissibility of evidence); *United States v. Smith*, 869 F.2d 348, 351 (7th Cir. 1989) (stating that Seventh Circuit has continued to affirm and apply *Frye* standard); *United States v. Shorter*, 809 F.2d 54, 59-61 (D.C. Cir.) (stating that *Frye* test is standard for admissibility of new methods of scientific measurement), *cert. denied*, 484 U.S. 817 (1987); *United States v. Metzger*, 778 F.2d 1195, 1203 (6th Cir. 1985) (stating that Sixth Circuit predicates admission of scientific evidence upon application of *Frye* test), *cert. denied*, 477 U.S. 906 (1986); *United States v. Smith*, 776 F.2d 892, 898 (10th Cir. 1985) (applying *Frye* test); *United States v. Gould*, 741 F.2d 45, 49 (4th Cir. 1984) (adopting *Frye* test as proper standard for determining relevance of scientific testimony); *Barrel of Fun, Inc. v. State Farm Fire & Casualty Co.*, 739 F.2d 1028, 1031 n.9 (5th Cir. 1985) (noting in civil case that Fifth Circuit has continued to apply *Frye* criteria as standard of admissibility); *United States v. Foshier*, 590 F.2d 381, 383 (1st Cir. 1979) (recognizing that *Frye* is valid test).

266. See *United States v. Jakobetz*, 955 F.2d 786, 794 (2d Cir.), *cert. denied*, 113 S. Ct. 104 (1992) (reaffirming rejection of *Frye* test); *United States v. Downing*, 753 F.2d 1224 (3d Cir. 1985) (rejecting *Frye* test as independent controlling standard of admissibility).

continue to embrace the *Frye* rule in the context of criminal litigation.<sup>267</sup>

*B. The Ignorance of the Established Role  
of the Jury in Resolving Factual Issues*

Huber's vocabulary in *Galileo's Revenge* is broad, yet almost nowhere to be found is what Huber apparently regards as "the 'J' Word"—jury. The concept of the jury, or of the Seventh Amendment right to civil jury trial, is listed nowhere in the thirteen-page index to *Galileo's Revenge*. Indeed, despite rather clear holdings by the Supreme Court that "[c]redibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts are jury functions, not those of a judge,"<sup>268</sup> much of Huber's

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267. ALABAMA: *Adams v. State*, 484 So. 2d 1160, 1162 (Ala. Crim. App. 1985); *Prewitt v. State*, 460 So. 2d 296, 301-04 (Ala. Crim. App. 1984).

ALASKA: *Contreras v. State*, 718 P.2d 129, 134-36 (Alaska 1986); *Pulakis v. State*, 476 P.2d 474, 478-79 (Alaska 1970).

CALIFORNIA: *People v. McDonald*, 690 P.2d 709, 724 (Cal. 1984); *People v. Kelly*, 549 P.2d 1240, 1244 (Cal. 1976).

CONNECTICUT: *State v. Miller*, 522 A.2d 249, 260 (Conn. 1987); *State v. Atwood*, 479 A.2d 258, 263-64 (Conn. Super. Ct. 1984).

DISTRICT OF COLUMBIA: *Jones v. United States*, 548 A.2d 35, 39 (D.C. 1988).

ILLINOIS: *People v. Eyler*, 549 N.E.2d 268, 285 (Ill. 1989), *cert. denied*, 111 S. Ct. 215 (1990); *People v. Milone*, 356 N.E.2d 1350, 1356-59 (Ill. App. Ct. 1976).

INDIANA: *Hopkins v. State*, 579 N.E.2d 1297, 1301-03 (Ind. 1991); *Cornett v. State*, 450 N.E.2d 498, 503 (Ind. 1983). *But cf. Hopkins v. State*, 579 N.E.2d 1297, 1305-06 (Ind. 1991) (concurring opinion) (suggesting that *Frye* has not been conclusively adopted in Indiana).

KANSAS: *State v. Witte*, 836 P.2d 1110, 1116 (Kan. 1992); *Smith v. Deppish*, 807 P.2d 144, 157-59 (Kan. 1991); *State v. Washington*, 622 P.2d 986, 991-92 (Kan. 1981).

KENTUCKY: *Perry v. Commonwealth*, 652 S.W.2d 655, 661 (Ky. 1983).

MARYLAND: *Cobey v. State*, 533 A.2d 944, 946 (Md. Ct. Spec. App. 1987), *cert. denied*, 538 A.2d 778 (1988); *Reed v. State*, 391 A.2d 364, 368-72 (Md. 1978).

MASSACHUSETTS: *Commonwealth v. Curnin*, 565 N.E.2d 440, 443 (Mass. 1991); *Commonwealth v. Mendes*, 547 N.E.2d 35, 37 (Mass. 1989).

MINNESOTA: *State v. Fenney*, 448 N.W.2d 54, 57 (Minn. 1989); *State v. Mack*, 292 N.W.2d 764, 767-68 (Minn. 1980).

MISSISSIPPI: *Goodson v. State*, 566 So. 2d 1142, 1146 (Miss. 1990) (applying general acceptance test, but not citing *Frye* by name).

NEBRASKA: *State v. Reynolds*, 457 N.W.2d 405, 417 (Neb. 1990).

NEW HAMPSHIRE: *State v. Vandebogart*, 616 A.2d 483, 488-91 (N.H. 1992); *State v. Stewart*, 364 A.2d 621, 623 (N.H. 1976); *State v. Coolidge*, 260 A.2d 547, 560-61 (N.H. 1969), *rev'd on other grounds*, 403 U.S. 443 (1970).

NEW MEXICO: *State v. Blea*, 681 P.2d 1100, 1103 (N.M. 1984).

OKLAHOMA: *Rawlings v. State*, 740 P.2d 153, 161 (Okla. Crim. App. 1987) (adopting general acceptance standard but not citing *Frye* explicitly); *Driskell v. State*, 659 P.2d 343, 356 (Okla. Crim. App. 1983); *Smith v. State*, 656 P.2d 277, 281 (Okla. Crim. App. 1982).

PENNSYLVANIA: *Commonwealth v. Rodgers*, 605 A.2d 1228, 1234-35 (Pa. Super. Ct. 1992); *Commonwealth v. Nazarovitch*, 436 A.2d 170, 172 (Pa. 1981); *Commonwealth v. Topa*, 369 A.2d 1277, 1281 (Pa. 1977).

SOUTH DAKOTA: *State v. Adams*, 418 N.W.2d 618, 620 (S.D. 1988); *State v. Helmer*, 278 N.W.2d 808, 812 (S.D. 1979).

WASHINGTON: *State v. Ortiz*, 831 P.2d 1060, 1069 (Wash. 1992) (en banc); *State v. Martin*, 684 P.2d 651, 654 (Wash. 1984).

268. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986).

book proceeds as if the jury did not exist, and as if only judges are entrusted with the task of deciding the facts of a case. For example, Huber lauds the "wise judges" who "affirm[] the solid science and reject[] the paranoid speculation."<sup>269</sup>

In applying the reinvigorated *Frye* rule, Huber explains that the wise judge should decide which community of scientists to consult.<sup>270</sup> He or she should then "determin[e] just where the mainstream scientific consensus lies," based on "[c]areful reviews of current learning . . . published in top-notch scientific journals."<sup>271</sup> These journals "have long track records of accuracy and insight," and what the wise judge "trusts is the institution, the process, the collegiality, the experience, and the track record."<sup>272</sup> Huber writes that "[t]he consensus scientific community supplies stopping points in abundance," such as the FDA's opinion of the safety of Bendectin, the National Institute of Health's opinion on the value of electronic fetal monitors, or the Centers for Disease Control's opinion on the causes of pelvic infection.<sup>273</sup> Although such authoritative opinions are not infallible, Huber finds that they are "less fallible—*much* less fallible—than a thousand juries scattered across the country grappling with the complexities of immune system impairment after being educated by the likes of Bertram Carnow or Arthur Zahalsky,"<sup>274</sup> whom Huber regards as high priests of the junk science movement.

In short, Huber objects to any legal system that, in the face of a "definitive pronouncement[]" from an authoritative scientific organization, would dare ask a jury its view of a factual issue.<sup>275</sup> Reliance on juries leads to "despotism sold by the drink," at the hands of "activist legal bartenders."<sup>276</sup> Huber believes that inviting random panels of jurors to decide scientific truth by majority vote repudiates the existence of objective fact. "The 'rule of law' is a completely empty promise if key facts are infinitely plastic, if there is no external and no immutable reality."<sup>277</sup> "It is simply unacceptable for any judge to insist that there is no such thing. With or without the modern philosopher's blessing, . . . lines can and must be drawn" be-

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269. HUBER, GALILEO'S REVENGE, *supra* note 5, at 193.

270. HUBER, GALILEO'S REVENGE, *supra* note 5, at 199.

271. HUBER, GALILEO'S REVENGE, *supra* note 5, at 200.

272. HUBER, GALILEO'S REVENGE, *supra* note 5, at 200-01.

273. HUBER, GALILEO'S REVENGE, *supra* note 5, at 201.

274. HUBER, GALILEO'S REVENGE, *supra* note 5, at 201.

275. See HUBER, GALILEO'S REVENGE, *supra* note 5, at 202 (criticizing fact that judicial system permits juries, rather than FDA, CDC, or other well-respected sources of scientific literature, to decide if drug is carcinogenic).

276. HUBER, GALILEO'S REVENGE, *supra* note 5, at 218.

277. HUBER, GALILEO'S REVENGE, *supra* note 5, at 219.

tween science and pseudoscience, between "fact and fantasy."<sup>278</sup> In Huber's legal universe, the judge commands factfinding and is to direct factual resolutions toward the mainstream consensus.<sup>279</sup>

The judge who meticulously steers the search for the most authoritative, reliable assessment of Bendectin, or the origins of cerebral palsy, or the causes of sudden acceleration, is not surrendering her independence, she is vindicating it. In other circles, countless extraneous considerations might corrupt the inquiry into the facts. The judge's unique privilege and responsibility is to do her utmost to get the facts right.

In the long run, a judge's independence is increased, not reduced, by careful respect for external law, whether written by other judges, legislators, constitutional framers, or the still higher authority, beyond any appeal, that enacted the laws of nature.<sup>280</sup>

If the remainder of the book left any doubt, this passage from *Galileo's Revenge*, coming five pages from the close, makes clear that Huber is a legal theorist operating on the radical fringe whose prescriptions cannot be taken seriously in our contemporary constitutional order, at least in the federal court system.<sup>281</sup> As the U.S. Supreme Court has often remarked, "[t]he right to trial by jury is a 'basic and fundamental feature of our system of federal jurisprudence,' "<sup>282</sup> and that right is also protected in all states and in the

278. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 223.

279. See HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 224 (asserting that "judge's unique privilege and responsibility is to do her utmost to get the facts right" and that to do this judge must make disciplined pursuit of true science, commonly reflected as scientific consensus).

280. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 224.

281. Apart from the radical legal nature of Huber's theory that complex issues of scientific fact should be entrusted to "wise judges" rather than juries, the course on which he would have these judges embark has little support in scientific reality. It is well beyond the scope of this Article to respond to Huber's undocumented lay opinion that as to each factual issue an authoritative "scientific consensus" can be found, and that select scientific journals serve as the repository of this consensus. The interested reader, however, will find ample rebuttal of Huber's views in various briefs filed in the *Daubert* case recently considered by the U.S. Supreme Court. See, e.g., Brief of Physicians, Scientists, and Historians of Science as Amici Curiae in Support of Petitioners, *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (U.S. Dec. 2, 1992) (No. 92-102) (containing extensive rebuttal of many of Huber's views of science; authors include scientists and historians of science Stephen Jay Gould, Gerald Holton, Everett Mendelsohn, and Dorothy Nelkin); Brief for Petitioners at 47-49, *Daubert* (No. 92-102) (rejecting view that prior publication in peer review journal can be predicate for admissibility of expert testimony); Brief of American Society of Law, Medicine, and Ethics et al. as Amici Curiae, *Daubert* (No. 92-102) (documenting frequent use by scientists and government regulators of nonpeer-reviewed scientific analysis); Brief of Daryl E. Chubin et al. as Amici Curiae, *Daubert* (No. 92-102) (rebutting many of Huber's conceptions about supposed value of institution of peer review for promoting scientific "truth").

282. *Bailey v. Central Vt. Ry.*, 319 U.S. 350, 354 (1943) (quoting *Jacob v. New York City*, 315 U.S. 752, 752 (1942)); see also *Lyon v. Mutual Benefit Health & Accident Assoc.*, 305 U.S. 484, 492 (1939) ("It is essential that the right to trial by jury be scrupulously safeguarded."); *Dimick v. Schiedt*, 293 U.S. 474, 486 (1935) (stating that "any seeming curtailment of the right to a jury trial should be scrutinized with the utmost care"); *Grand Chute v. Winegar*, 82

District of Columbia in criminal trials by the Sixth Amendment<sup>283</sup> and in civil cases by state constitution or statute.<sup>284</sup>

Despite the "careful respect for . . . constitutional framers" that Huber suggests judges should hold, he ignores the fact that the Constitution commands judges to defer to juries in resolving matters of credibility and factfinding. Such a command may not be modified ad hoc in the pursuit of fealty to scientific consensus or consistency and efficiency in adjudication.<sup>285</sup> As Chief Justice Rehnquist stated some time ago, such policy goals "cannot obscure or dilute [the] obligation to enforce the Seventh Amendment," for the founders of our nation considered the civil jury trial "an important bulwark against tyranny and corruption, a safeguard too precious to be left to the whim of the sovereign or, it might be added, to that of the judiciary."<sup>286</sup> As has been thoroughly recounted by Chief Justice Rehnquist and numerous scholars, the Seventh Amendment was the product of the colonials' perception of repression at the hands of biased judges appointed by the Crown; whether or not that concern was well-founded, the Federalists' guarantee that a civil jury trial would be included in the Bill of Rights was essential to the passage of the Constitution itself.<sup>287</sup> Both in its pedigree and in its

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U.S. (15 Wall.) 373, 375 (1872) (stating that right to trial by jury is "great constitutional right").

283. See *Duncan v. Louisiana*, 391 U.S. 145, 147-58 (1968) (incorporating Sixth Amendment right to jury trial in criminal cases through Fourteenth Amendment to apply to states).

284. All 50 states and the District of Columbia preserve or provide a constitutional, statutory, or case law right to a jury trial in civil cases, subject in some instances to a subject matter or an amount in controversy requirement. See ALA. CONST. art. I, § 11; ALASKA CONST. art. I, § 16; ARIZ. CONST. art. II, § 23; ARK. CONST. art. II, § 7; CAL. CONST. art. I, § 16; COLO. R. CIV. P. 38; CONN. CONST. art. I, § 19; DEL. CONST. art. I, § 4; D.C. CODE ANN. § 11-715 (1961), *Paton v. Rose*, 191 A.2d 455, 456 (D.C. 1963) (explicating D.C. jury guarantee); FLA. CONST. art. I, § 22; GA. CONST. art. I, § 1, ¶ XI; HAW. CONST. art. I, § 13; IDAHO CONST. art. I, § 7; ILL. CONST. art. I, § 13; IND. CONST. art. I, § 20; IOWA CONST. art. I, § 9; KAN. CONST. Bill of Rights, § 5; KY. CONST. § 7; LA. CODE CIV. PROC. art. 1731 (West 1987); LA. CODE CIV. PROC. art. 1732(1) (West 1987); ME. CONST. art. I, § 20; MD. CONST. Dec. of Rights art. 23; MASS. CONST. ANN. pt. I, art. 15; MICH. CONST. art. IV, § 44, MICH. COMP. LAWS § 600.1352 (1991); MINN. CONST. art. I, § 4; MISS. CONST. art. VI, § 147; MO. CONST. art. I, § 22(a); MONT. CONST. art. III, § 26; NEB. CONST. art. I, § 6; NEV. CONST. art. I, § 3; N.H. CONST. pt. I, art. 15, § 20; N.J. CONST. art. I, ¶ 9; N.M. CONST. art. II, § 12; N.Y. CONST. art. I, § 2; N.C. CONST. art. I, § 25; N.D. CONST. art. I, § 13; OHIO CONST. art. I, § 5; OKLA. CONST. art. II, § 19; OR. CONST. art. I, § 17; PA. CONST. art. I, § 6; R.I. CONST. art. I, § 15; S.C. CODE ANN. § 27-37-60 (Law. Co-op. 1991); S.D. CONST. art. VI, § 6; TENN. CONST. art. I, § 6; TEX. CONST. art. V, § 10; UTAH CONST. art. I, § 10; VT. CONST. art. XII; VA. CONST. art. I, § 11; WASH. CONST. art. I, § 21; W.V. CONST. art. III, § 13; WIS. CONST. art. I, § 5; WYO. CONST. art. I, § 9, WYO. R. CIV. P. 38.

285. See *Codispoti v. Pennsylvania*, 418 U.S. 506, 536 (1974) (noting that where constitutional right to jury trial applies, fact-finding must be carried out by jury, not judge).

286. *Parklane Hosiery Co. v. Shore*, 439 U.S. 322, 338 (1979) (Rehnquist, J., dissenting).

287. See *id.* at 340-44 (recounting history of Seventh Amendment and popular call for civil jury trials in Constitution ratification debates); see also Morris S. Arnold, *A Historical Inquiry into the Right to Trial by Jury in Complex Civil Litigation*, 128 U. PA. L. REV. 829, 832-35 (1980) (recognizing high regard for jury trial among American colonists in context of colonial debates over jury trials for equity cases); Charles W. Wolfram, *The Constitutional History of the Seventh Amend-*

functioning, the Seventh Amendment is thus a vital check on the autocratic tendencies that might, absent the jury trial guarantee, develop within the life-tenured federal judiciary.<sup>288</sup>

Apart from the constitutional absurdity of Huber's position, there is little empirical support for the view that a jury is less able to resolve scientific issues involving expert testimony than is a single, nonexpert judge. Thus, there is no ground for Huber's view that it is somehow desirable for judges to muscle juries out of the way in the fight against junk science. To the contrary, as has been noted in an essay by Judge Patrick Higginbotham, a judge Huber depicts as one of the fiercest critics of junk science,<sup>289</sup> the use of a jury to resolve difficult scientific questions confers significant benefits to the civil justice system.<sup>290</sup> The presence of a jury makes "an enormously valuable contribution" to the clarity of argumentation by "forcing counsel to organize a complex mass of information into a form understandable by the uninitiated."<sup>291</sup> "Apart from the occasional situation in which a judge possesses unique training, . . . the assumption that a jury collectively has less ability to comprehend complex material than does a single judge is an unjustified conclusion."<sup>292</sup>

A lively debate raged in both the lower federal courts and the academic community a decade ago over the question of whether some cases are simply too complex for a lay jury to resolve.<sup>293</sup> The con-

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ment, 57 MINN. L. REV. 639, 653-730 (1974) (discussing debate between Federalists and Anti-federalists over adoption of Seventh Amendment).

288. See *Granfinanciera, S.A. v. Nordberg*, 492 U.S. 33, 83 (1989) (White, J., dissenting) ("The function of the civil jury is to diffuse the otherwise autocratic power and authority of the judge."); *Parklane*, 439 U.S. at 344-50 (Rehnquist, J., dissenting) (arguing that right to jury trial protects against incursions by government or judiciary); see also *Chauffeurs, Teamsters & Helpers, Local No. 391 v. Terry*, 494 U.S. 558, 580 (1990) (Brennan, J., concurring in part and concurring in judgment) (recounting that Seventh Amendment originated from "encroachment on civil jury trial by colonial administrators"). As Judge Patrick Higginbotham has explained, the Seventh Amendment flowed largely from the need for a check on the otherwise unaccountable power of appellate courts. See Patrick E. Higginbotham, *Continuing the Dialogue: Civil Juries and the Allocation of Judicial Power*, 56 TEX. L. REV. 47, 48-50 (1977) (equating debate over jury trials as debate over who will be trier of fact). American courts have a "peculiar need for the democratizing influence of the jury" because an independent judiciary carries with it an "attendant risk of autocratic behavior." *Id.* at 52.

289. See *HUBER, GALILEO'S REVENGE*, *supra* note 5, at 205 (stating that Judge Higginbotham has urged judiciary to "take hold of expert testimony in federal trials").

290. See Higginbotham, *supra* note 288, at 52 (asserting that use of jury in civil trials protects against risk of autocratic, independent judiciary).

291. Higginbotham, *supra* note 288, at 54.

292. Higginbotham, *supra* note 288, at 53.

293. See, e.g., Arnold, *supra* note 287, at 848 (concluding that there is no precedent for denial of plaintiff's right to jury trial on account of complexity of litigation); Patrick Devlin, *Jury Trial of Complex Cases: English Practice at the Time of the Seventh Amendment*, 80 COLUM. L. REV. 43, 106-07 (1980) (concluding that English history favors courts' denial of jury trial when practical abilities of jury to find fact is impaired); Constance S. Huttner, Note, *Unfit for Jury Determination: Complex Civil Litigation and the Seventh Amendment Right of Trial by Jury*, 20 B.C. L.



trover's fire was stoked by a Third Circuit holding that, in light of due process concerns, the Seventh Amendment does not necessarily mandate a jury trial in complex cases,<sup>294</sup> and a Ninth Circuit holding that there is no "complexity exception" to the Seventh Amendment.<sup>295</sup> The consensus today is that juries are fully able to resolve complex issues, including the conflicting assertions contained in complex expert testimony. A special symposium on the civil jury system organized by the Brookings Institution and the American Bar Association in 1992 and composed of judges, academics, and plaintiff- and defense-side lawyers reaffirmed "a strong commitment to a civil jury of lay persons," which is "a valuable process for decisionmaking and an effective means for arriving at a fair resolution of disputed facts."<sup>296</sup> The symposium also concluded that "the jury provides important protections against the abuse of power by legislatures, judges, the government, business, or other powerful entities."<sup>297</sup> Rejecting efforts to supplant lay juries with more "expert" tribunals,<sup>298</sup> the symposium exhibited a "strong sentiment" to "resist efforts to reduce the jury's role" and "strongly rejected proposals for blue ribbon or expert juries for resolving complex cases."<sup>299</sup>

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REV. 511, 533-38 (1979) (suggesting that improved judicial management of complex litigation is preferable to curtailment of right to jury trial); Montgomery Kersten, Note, *Preserving the Right to Jury Trial in Complex Civil Cases*, 32 STAN. L. REV. 99, 115 (1979) (arguing that courts' restriction of right to trial by jury is unnecessary).

294. See *In re Japanese Elec. Prods. Antitrust Litig.*, 631 F.2d 1069, 1086 (3d Cir. 1980) (observing that complexity of case may exceed jury's ability to decide rationally and that denial of jury trial in these cases does not abrogate due process).

295. See *In re U.S. Fin. Sec. Litig.*, 609 F.2d 411, 431 (9th Cir. 1979) (refusing to read complexity exception into Seventh Amendment), *cert. denied*, 446 U.S. 929 (1980).

296. BROOKINGS INST., CHARTING A FUTURE FOR THE CIVIL JURY SYSTEM: REPORT FROM AN AMERICAN BAR ASSOCIATION/BROOKINGS SYMPOSIUM 8 (1992) [HEREINAFTER CHARTING A FUTURE].

297. *Id.* at 9 (citing *Parklane Hosiery Co. v. Shore*, 439 U.S. 322, 339-40 (1979) (Rehnquist, J., dissenting)).

298. See William V. Luneburg & Mark A. Nordenberg, *Specially Qualified Juries and Expert Nonjury Tribunals: Alternatives for Coping with the Complexities of Modern Civil Litigation*, 67 VA. L. REV. 887, 942-50, 995-1004 (1981) (recommending use of carefully selected "special juries" or expert nonjury tribunals for complex litigation).

299. CHARTING A FUTURE, *supra* note 296, at 2-4. This approach was rejected, among other reasons, on the view that "the jury provides an important check on the bureaucratization and professionalization of the legal system," preventing

adjudication from becoming technical and routinized, perhaps even distant and insensitive, as cases with similar fact patterns recur over and over before the same decisionmaker (the judge). The jury brings common sense and fairness to its decisions, cutting through the arcane and often overly detailed presentations of information by lawyers and judges. Lawyers can over-try cases, jury instructions can obfuscate basic legal principles, and judges can be mysterious and distant participants in the process.

*Id.* at 10. The report concluded:

It is our collective experience, supported by the available evidence, that no case is inherently too complex for juries to decide. In our view, if juries find issues and facts too complex, it is because the *lawyers* have failed to present their cases clearly or

Instead of circumscribing the jury's role, the symposium endorsed a wide range of proposals to further improve the capacities of the civil jury, to "move the jury from being a 'passive' fact-finder to taking a more 'active' part in the trial process," through the use of such devices as pretrial instructions, notetaking, exhibit notebooks, on-line access to transcripts of testimony, minisummary statements during trial, increased use of visual exhibits during trial, "plain language" instructions, larger juries to enhance consistency of outcomes, and enhanced training of both lawyers and judges in the ability to run effective trials.<sup>300</sup>

The U.S. Supreme Court has also exhibited considerable confidence in our basic system of jury justice. As the Court noted in *Barefoot v. Estelle*:<sup>301</sup> "[T]he rules of evidence generally extant at the federal . . . level[] anticipate that relevant, unprivileged evidence should be admitted and its weight left to the fact finder, who would have the benefit of cross examination and contrary evidence by the opposing party."<sup>302</sup>

In *Barefoot*, the Court stressed that "the purpose of the jury is to sort out the true testimony from the false, the important matters from the unimportant matters, and, when called upon to do so, to give greater credence to one party's expert witnesses than another's. Such matters occur routinely in the American judicial system, both civil and criminal."<sup>303</sup> Although Huber enjoys depicting those who disagree with his junk science concerns as "far-siders straight out of a Gary Larson cartoon,"<sup>304</sup> the extreme, almost caricatured views of

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judges have failed to structure the proceedings in a way that would simplify matters for the jury to understand them.

*Id.* at 18 (emphasis added).

300. *Id.* at 16-27. A substantial body of commentary has developed along these lines. See, e.g., Joe S. Cecil et al., *Citizen Comprehension of Difficult Issues: Lessons from Civil Jury Trials*, 40 AM. U. L. REV. 727, 764-74 (1991) (advocating continued and increased participation of juries in adjudication and suggesting improvements to increase jury comprehension of issues and facts); Committee on Fed. Courts of the New York State Bar Assoc., *Improving Jury Comprehension in Complex Civil Litigation*, 62 ST. JOHN'S L. REV. 549, 570 (1988) (reviewing potential improvements in jury comprehension of issues and facts in civil litigation); Judyth W. Pendell, *Enhancing Juror Effectiveness: An Insurer's Perspective*, 52 LAW & CONTEMP. PROBS., Autumn 1989, at 311, 321 (pointing out that increased predictability of trial outcomes is helpful to insurers and recommending measures to improve jury efficiency); Carrie P. Withey, *Court-Sanctioned Means of Improving Jury Competence in Complex Civil Litigation*, 24 ARIZ. L. REV. 715 (1982) (suggesting that already existing court-sanctioned procedures for sorting out difficulties in complex litigation is preferable to use of special juries or administrative tribunals).

301. 463 U.S. 880 (1983).

302. *Barefoot v. Estelle*, 463 U.S. 880, 898 (1983).

303. *Id.* at 902 (citation omitted). The Court repeated that emphasis in *Beech Aircraft Corp. v. Rainey*, 488 U.S. 153 (1988), noting with regard to opinion testimony that "the ultimate safeguard" in the Federal Rules is "the opponent's right to present evidence tending to contradict or diminish the weight of those conclusions." *Id.* at 168.

304. HUBER, GALILEO'S REVENGE, *supra* note 5, at 17.

the American legal system on which Huber depends are amply revealed by his discussion of *Barefoot*.

*Barefoot* considered a constitutional challenge to the receipt of psychiatric testimony on future dangerousness in a state criminal proceeding.<sup>305</sup> The mainstream of the psychiatric profession believed that psychiatrists' efforts to make such predictions were utterly unreliable, a point brought to the Court's attention in an amicus curiae brief of the American Psychiatric Association (APA).<sup>306</sup> Without challenging the accuracy of the APA's headcount, the Court responded:

If [the four psychiatrists whose testimony was at issue] are so obviously wrong and should be discredited, there should be no insuperable problem in doing so by calling members of the Association [to testify against them]. . . . We are unconvinced, however, at least as of now, that the adversary process cannot be trusted to sort out the reliable from the unreliable evidence . . . .

All of these doubts about the usefulness of psychiatric predictions can be called to the attention of the jury . . . . Petitioner's . . . argument . . . is founded on the premise that the jury will not be able to separate the wheat from the chaff. We do not share in this low evaluation of the adversary process.<sup>307</sup>

Huber writes contemptuously of the Court's vigorous defense of the capabilities of the lay jury:

[T]he question before the High Court was whether a certain brand of psychiatric soothsaying ranks as real science. The American Psychiatric Association declared that it doesn't, and all the Justices conceded that two-thirds of the predictions made by certain psychiatric prophets are wrong. No matter, a majority concluded in a dismal display of let-it-all-in reasoning: a jury can always be trusted "to separate the wheat from the chaff." The chaff in this case was represented by a psychiatrist nicknamed "Dr. Death," a man who testifies frequently on the "future dangerousness" of capital defendants. The upshot was that Thomas Barefoot, his future dangerousness suitably certified by a credentialed expert, was executed by lethal injection in Huntsville, Texas, just after midnight on Tuesday, October 24, 1984.<sup>308</sup>

Apart from revealing Huber's dependence on a wholesale rejection of mainstream thinking about law, this passage of his book fails to come to grips with the implications of the Supreme Court's disa-

305. *Barefoot*, 463 U.S. at 896.

306. Brief for the American Psychiatric Association as Amicus Curiae, *Barefoot v. Estelle*, 463 U.S. 880 (1983) (No. 82-6080), available in LEXIS, Genfed Library, Briefs File.

307. *Barefoot*, 463 U.S. at 900-01 & n.7.

308. HUBER, GALILEO'S REVENGE, *supra* note 5, at 219-20.

greement with his view of *Barefoot*. If the Supreme Court is willing to permit a human being to be put to death on the basis of what, under Huber's calculus, is clearly junk science, it is difficult to see why the Court, or other judges, should put much stock in Huber's plea that the danger of erroneous jury verdicts in civil tort litigation justifies a wholesale revision of our legal system, and especially of the role of the jury.<sup>309</sup>

At the least Huber is candid about his agenda, and the radical nature of his position. He succinctly states near the close of *Galileo's*

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309. In particular, it is hard to put any stock in Huber's complaint that the present system invites "random panels of jurors . . . to decide scientific truth by majority vote" repudiates "the existence of objective fact," and that "[i]t is not especially scientific to . . . sit back, let everything in, and invite random groups of twelve stout citizens to vote as they please." HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 218, 228. Huber harps on the fallibility of "a thousand juries scattered across the country grappling with the complexities of immune system impairment" or other health harms. *Id.* at 201. In fact, Huber's worries about the "inconsistency" in results of individually empaneled juries simply reflect an endemic feature of a case-by-case system of adjudication coupled with the use of a lay jury as a means of providing a needed check on the power of the life-tenured judiciary.

As Justice Kennedy observed in the far more visible and troublesome area of inconsistent punitive damages awards, the evolution of the jury system over the centuries in general demonstrates that "[o]ur legal tradition is one of progress from fiat to rationality," and "[e]lements of whim and caprice do not predominate" in a properly functioning jury system. *Pacific Mut. Life Ins. Co. v. Haslip*, 111 S. Ct. 1032, 1055 (1991) (Kennedy, J., concurring). "Some inconsistency of jury results can be expected," of course, partly because "the jury is empaneled to act as a decisionmaker in a single case, not as a more permanent body. As a necessary consequence of their case-by-case existence, juries may tend to reach disparate outcomes based on the same instructions." *Id.* Indeed, in the area of criminal law "[i]t has, of course, long been the rule that consistency in verdicts or judgments of conviction is not required." *Hamling v. United States*, 418 U.S. 87, 101 (1974). In fact, "it is common experience that different juries may reach different results under any criminal statute. That is one of the consequences we accept under our jury system." *Id.* at 101 (quoting *Roth v. United States*, 354 U.S. 476, 492 n.30 (1957)).

The preeminent role our civil justice system gives the jury reveals the fundamental consistency underlying what on the surface might appear to be a pattern of inconsistent verdicts in cases involving different plaintiffs but similar scientific evidence. "[T]he many ways in which lawyers are accustomed to talking about 'inconsistency' in the law do not really conflict with the widespread assumption that legal systems are consistent." See John M. Rogers & Robert E. Molzon, *Some Lessons About the Law from Self-Referential Problems in Mathematics*, 90 MICH. L. REV. 992, 1000 (1992) (applying mathematical analysis of number theory systems to legal system and concluding that it is impossible to derive consistent rule for every fact pattern). One can conclude that these "different results are but consistent applications of the higher rule (metarule)" that operates here. *Id.* at 1001.

The core function of the jury is to check the discretion of Article III judges by evaluating the weight of evidence and the credibility of witnesses. See *supra* notes 285-88 and accompanying text (discussing function of jury). Obviously, in every case in which the jury is permitted to do its job, regardless of whether the outcomes in any range of cases are the same, this core function is consistently carried out. "[A]t times the law may not require one action or decision only, but instead permits a particular range of choices"; even where "discretion is exercised in different ways on identical facts . . . there is still legal consistency . . . [that] results from the very fact that the law permits a range of choices." *Id.* at 1001-02. As Justice Kennedy emphasized in *Haslip*, the institution of jury trial naturally assumes and respects the discretion of juries to reach inconsistent outcomes in separate cases as the price of ensuring a consistent adjudicative process. See *Haslip*, 111 S. Ct. at 1054 (Kennedy, J., concurring) (asserting that mark of sound legal system is that its procedures and not necessarily its decisions have stood test of time).

*Revenge*: "The rule of law is indeed a grand thing, but not half so grand as the rule of fact."<sup>310</sup> Of course, as Chief Justice Rehnquist noted, because of the centuries-old constitutional pact leading to the Seventh Amendment, "no amount of argument that [a new procedural] device provides for more efficiency or more accuracy or is fairer will save it if the degree of invasion of the jury's province is greater than allowed in 1791."<sup>311</sup> Huber's "rule of fact," presumably administered by autocratic "social controllers" in the line of the "grand Inquisitors, the Hitlers, and Stalins"<sup>312</sup> rather than by jurors, may be an option in other countries, but not in ours.

#### IV. THE SELLING OF PETER HUBER: THE NEW "MANHATTAN PROJECT"

The flagrant shortcomings of Huber's first tort-reform book, *Liability: The Legal Revolution and Its Consequences*, have been on record for years now.<sup>313</sup> Many of the same errors that infected that book, such as bias, distortion of fact, and tendentious renderings of judicial opinions and legal treatises, also plague *Galileo's Revenge*. In both cases, these flaws, which render the books little more than quasihistorical, quasihysterical accounts of recent developments in the law, are either manifest or readily discovered.

To be sure, Peter Huber's style of writing is breezy and interesting. But Huber's marriage of his carefree style of writing to a careless style of research and analysis render his two major works on tort liability of little value for the reader. Despite this, as documented in Part I of this Article, Huber has long been regarded as the intellectual guiding light of the tort-reform movement, not only in the departed Bush-Quayle administration, but on Capitol Hill and in academia as well.<sup>314</sup> The mystery remains: Given the slipshod quality of Huber's writings, why is he so influential? The answer appears to be money and organization. The money is provided by insurance companies and other corporations, acting individually and also through corporate foundations and conservative think tanks, whose interests are endangered by lawsuits and who are thus willing to invest money today in the hope of reducing their exposure to liability tomorrow. The organization is provided by individuals and tort re-

310. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 225.

311. *Parklane Hosiery Co. v. Shore*, 439 U.S. 322, 346 (1979) (Rehnquist, J., dissenting).

312. HUBER, *GALILEO'S REVENGE*, *supra* note 5, at 217.

313. See *supra* notes 86-102 and accompanying text (discussing criticisms of various flaws in *Liability*).

314. See *supra* 37-42 and accompanying text (detailing Huber's influence and highlighting his popularity with Bush administration).

form groups who lead the charge on behalf of these entities. An examination of the influence this assistance has garnered Huber in the tort arena provides a fascinating case study of the role of public relations in the ongoing policy debate over reform of the American legal system.

### A. *The Discovery of Peter Huber*

In 1986, investment in Peter Huber appeared to be a prudent choice. Just one year earlier, Huber had published a law review article asserting that society in general and courts in particular are overly, almost obsessively preoccupied with "public risks," i.e., those "threats to human health or safety that are centrally or mass-produced, broadly distributed, and largely outside the individual risk bearer's direct understanding and control."<sup>315</sup> Huber suggested that citizens and governments, not to mention corporations, would be better off if individuals stopped worrying about the lack of air bags in cars and just started driving more safely; if they stopped obsessing about polluted air, contaminated water, and environmental toxins, and focused instead on examples of their own heedless behavior, such as smoking, drinking, or overeating.<sup>316</sup> Huber's article attracted the attention of Reagan administration ideologues and their colleagues in Congress, where debate was picking up steam over tort reform and the alleged insurance crisis.<sup>317</sup>

Huber's article proved to be an intellectual godsend to a movement that was long on lobbyists and cash but short on ideas. Just one year after its publication, Victor E. Schwartz, general counsel of the Products Liability Alliance and long regarded as the tort reform movement's chief lobbyist and spokesperson on Capitol Hill,<sup>318</sup> was asked what he thought of Huber's article and what made Huber so helpful to corporate America's campaign to undo a quarter century of progress in the law of torts. Schwartz replied that Huber's essay did nothing less than provide "'the intellectual underpinning' of the tort reform effort."<sup>319</sup> A reason for its importance, added Schwartz, was that Huber "was *untainted* by any relationship with the

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315. Peter Huber, *Safety and the Second Best: The Hazards of Public Risk Management in the Courts*, 85 COLUM. L. REV. 277, 277 (1985).

316. *Id.* at 277-79.

317. Sheila Kaplan, *These Perennials Are Lobbyists' Cash Cows*, LEGAL TIMES, Feb. 5, 1990, at S3.

318. See *supra* note 51 and accompanying text (describing role of Victor Schwartz in tort reform movement).

319. W. John Moore, *Peter Huber; Free-Lance Critic Hits Shackles of Regulation*, NAT'L J., Nov. 15, 1986, at 2797, 2797 (quoting Victor E. Schwartz).

manufacturers who are leading the fight for tort reform."<sup>320</sup>

*B. The Manhattan Institute's Packaging of Peter Huber*

Having discovered this pure, unadulterated tonic, corporate America proceeded to do with Huber what it usually does with such treasures: it commenced to bottle and market him, albeit with the hope of making it appear that he remain "untainted." Thus, in March 1986, the Manhattan Institute for Policy Research, a conservative "think tank,"<sup>321</sup> asked Huber to join Richard Epstein, professor of law at the University of Chicago, and Richard Willard, head of the Justice Department's Civil Division and Chief of the Reagan administration's Tort Policy Working Group, in a public forum on "The Liability Crisis: Who's to Blame?"<sup>322</sup> The program was scheduled to inaugurate the Manhattan Institute's "Project on Civil Justice Reform."<sup>323</sup>

Of course, the idea of using a forum to focus attention on the sponsor's view of an issue is not unusual; such forums, combined with position papers, are the *raison d'être* of Washington think tanks. What made the Project on Civil Justice Reform forum somewhat unique, and what has made the Manhattan Institute especially influential over the years are, first, how effectively the Manhattan Institute publicized the forum and, second, how it carefully capitalized on the forum in its aftermath.<sup>324</sup> In an internal report, the Manhattan Institute president, William M.H. Hammett, explained:

Follow-up [of the forum] was [deemed] essential and this is what we did during the rest of 1986:

320. *Id.* (emphasis added).

321. See generally MANHATTAN INST. FOR POLICY RESEARCH, HISTORY AND BACKGROUND 1 (1990) [hereinafter HISTORY AND BACKGROUND] (on file with *The American University Law Review*) (describing development of Manhattan Institute).

Formed originally [in 1978] as the [non-profit] International Center for Economic Policy Studies, the Institute was renamed in 1981 to reflect an expanded policy agenda. The Manhattan Institute was a moving force behind the book, *Wealth and Poverty*, by George Gilder, its then program director, which was widely credited with laying the basis for what has since become known as supply-side economics. Later, the Institute provided a catalyst for Thomas Sowell's work on ethnicity (*Markets and Minorities*, 1981) and Charles Murray's penetrating critique of contemporary welfare policy (*Losing Ground: American Social Policy 1950 - 1980*, 1984).

*Id.*

322. See MANHATTAN INST. FOR POLICY RESEARCH, THE LIABILITY CRISIS: WHO'S TO BLAME? 2 (1986) [hereinafter LIABILITY CRISIS] (detailing comments of speakers and questions of attendees at Manhattan forum discussing increased amount of tort litigation in United States).

323. *Id.*

324. Cf. Memorandum from William M.H. Hammett, President, Manhattan Institute for Policy Research, to All Civil Justice Contacts 1 (Jan. 7, 1987) [hereinafter Hammett Memorandum] (on file with *The American University Law Review*) (observing that "[r]eporters from all the national papers and magazines were there and the event generated numerous news articles").

1) Published a 24-page *Manhattan Report* with the proceedings of the seminar along with additional analysis of the breakdown of civil law. This report was mailed to 25,000 carefully selected people in government, academia, business, media and the law. It was reprinted in the *Empire State Report* and in CNA's newsletter and extracted in the *Wall Street Journal* and several other papers.

2) We held two workshops, one in Washington, DC in June and one in New York in August. The first included thirty corporate government affairs officers while the second, a full-day seminar, brought together fifteen academic scholars from across the country.

3) With assistance from a number of our friends, we compiled a mailing list of over 400 journalists who have written about the liability crisis.

4) Our project director, Walter Olson, published numerous "op-eds" on the subject, including a major piece in the *Wall Street Journal*. An article by him on directors' and officers' liability, which was published in the July issue of *Across the Board*, was mailed by us to over one thousand CEOs as well as to our media list.<sup>325</sup>

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325. Hammett Memorandum, *supra* note 324, at 1. These mailings to "over one thousand [corporate] CEOs" were not just for informational purposes. According to Hammett, Since May, Walter Olson and I have met with over a hundred corporate counsels and CEOs . . . in an effort to get our project funded. In that time, we've learned much about the legal problems facing corporate America and have compiled the following list of blue-chip supporters (amounts of 1986 support in parentheses): AETNA (\$10,000); Alexander & Alexander (\$1,500); American Home Products (\$5,000); American International Group (\$5,000); Blue Bird Body (\$1,000); Burlington Northern (\$1,000); Chubb (\$8,000); CIGNA (\$5,000); Combined International (\$5,000); Cooper Industries (\$1,000); Crum and Forster (\$2,500); General Electric (\$10,000); General Mills (\$1,000); Foxboro (\$1,000); Hartford Insurance (\$500); Illinois Tool Works (\$750); Jervis B. Webb Company (\$500); Kaman (\$500); Ko-Rec-Type (\$2,000); Merrill Lynch (\$5,000); Metropolitan Life (\$2,000); Milliken (\$5,000); Prudential (\$7,500); Reliance Holdings (\$5,000); RJR Nabisco (\$20,000); SAFECO (\$1,000); Santa Fe Southern Pacific (\$5,000); Sears, Roebuck (\$7,500); SmithKline Beckman (\$5,000); Squibb (\$1,000); State Farm (\$5,000); Texaco (\$5,000); Travelers (\$3,000).

*Id.* All told, these contributions totaled \$114,500—nearly half of which, \$52,500, was supplied by insurance companies. *Id.* at 2.

Six years later, the projected budget for the Judicial Studies Program had swollen nearly nine-fold to \$955,000. MISSION STATEMENT, *supra* note 38, at 8. Of this amount, \$500,000 was earmarked for the salaries and benefits of Huber, Walter Olson, and Michael Horowitz, the newly designated acting director of the program who served as former general counsel of the Office of Management and Budget under Reagan and was a former member of the Reagan Justice Department's Tort Policy Working Group. *Id.* Another \$180,000 was allocated for "Outreach (Conferences, travel, printing, etc.)." *Id.*

Where this funding comes from is as interesting as where it is allocated, for it is often the piper who calls the tune. Notwithstanding the Manhattan Institute's stated ambition to voice populist themes and its expressed desire to represent not just the "financial community" but "civil libertarians" and "consumer groups" as well, *id.* at 3, it appears that corporate America has the biggest financial stake in the Judicial Studies Program's "Mission." Major contributors include: 14 of the nation's largest insurance companies (Aetna, Alexander & Alexander, CIGNA, CNA, Crum & Forster, Employers Mutual Casualty, GEICO, Alexander Hamilton



In hindsight, it appears that the most important development in the Manhattan Institute's initial focus on tort liability issues was yet to come. In November 1986, Hammett writes, Huber

became [the Manhattan Institute's] first "Civil Justice Fellow" when he began work on his book [*Liability*]. He will be taking the next few months to complete the manuscript of what we expect will be the most forceful and lucid argument yet made for true tort reform. In addition to his stipend, we're also supplying him with paralegal assistance and editorial guidance from Walter Olson.<sup>326</sup>

### C. *The Public Relations Juggernaut of the Manhattan Institute*

The Manhattan Institute has long prided itself as much on its ability to promote views as to incubate them. Indeed, it sees the former as more important than the latter. In the view of the Manhattan Institute, the popularity of a given idea is more a reflection of the quality and quantity of the public relations efforts mounted *after* publication than any efforts at research, analysis, and writing by the author *before* publication.<sup>327</sup>

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Life, Kemper, Marsh & McLennan, Nationwide Insurance, SAFECO, Selective Insurance, and Transamerica); 16 of the nation's biggest chemical and pharmaceutical manufacturers (Abbott Laboratories, AMOCO, ARCO, Bristol Myers-Squibb, Dow Chemical, Eli Lilly, Exxon, Johnson & Johnson, Merck, Mobil, Monsanto, Pfizer, SmithKline Beecham, Texaco, Union Carbide, and Upjohn); and 21 of the nation's wealthiest industrial manufacturers (including Alcoa, American Home Products, Ameritech, Anheuser-Busch, Boeing, Coca-Cola, Cooper Industries, Conoco, General Dynamics, General Electric, B.F. Goodrich, W.R. Grace, Honeywell, IBM, Litton Industries, PepsiCo, Philip Morris, RJR Nabisco, Rockwell International, TRW, and Westinghouse). *Id.* at 8.

Over the years, the overall budget for the Manhattan Institute has grown apace. Originally named the International Center for Economic Studies, *see supra* note 321, it began operations with a budget of \$125,000. *See* SIDNEY BLUMENTHAL, *THE RISE OF THE COUNTER-ESTABLISHMENT: FROM CONSERVATIVE IDEOLOGY TO POLITICAL POWER* 294 (1986) (noting that growth from initial budget due to private corporate contributions created substantial political power); JOSEPH G. PESCHEK, *POLICY-PLANNING ORGANIZATIONS: ELITE AGENDAS AND AMERICA'S RIGHTWARD TURN* 63 (1987) (stating amount of growth of several policy planning organizations and noting conservative influence exerted by large corporate contributions). By 1989, total contributions had grown to \$2,113,000, 41% of which came from conservative and/or corporate foundations such as the John M. Olin Foundation, Sarah Scaife Foundation, Lynde and Harry Bradley Foundation, J.M. Foundation, Smith Richardson Foundation, and Starr Foundation. *TEN YEAR REVIEW*, *supra* note 49, at 20-22. Thirty-three percent came from Fortune 500 corporations, chiefly insurance companies and pharmaceutical and chemical manufacturers, including \$50,000-plus each from Aetna, State Farm Insurance, Citicorp, and Chase Manhattan Bank; \$15,000-plus each from Prudential, Exxon, RJR Nabisco, Philip Morris, Bristol-Myers Squibb, Pfizer, Procter & Gamble, and UPS; and \$5,000-plus each from Abbott Laboratories, Alcoa, American Home Products, Amoco, Boeing, Chrysler, Chubb, CIGNA, CNA, Continental Corporation, Dow Chemical, Dupont, FMC, Ford, General Electric, General Reinsurance, Hill & Knowlton, Household International, Johnson & Johnson, Merck, Milliken & Co., Reliance Group, Royal Insurance, Sears, Roebuck, J & W Seligman, SmithKline Beecham, U.S. Trust, Union Carbide, and Xerox. *Id.* at 21, 23.

326. Hammett Memorandum, *supra* note 324, at 1.

327. *See* MANHATTAN INST. FOR POLICY RESEARCH, *WINTER REPORT 1991-1992*, at 7 (1992) [hereinafter *WINTER REPORT*] (acknowledging that "[c]ommissioning a work, supporting it, and finding a publishing outlet are only part of what the Institute does, however; making sure

The Manhattan Institute's approach can be gleaned from documents that it has released over the past several years, some of which are publicly available and some of which the author obtained from recipients of periodic fundraising newsletters distributed by the Manhattan Institute.<sup>328</sup> The recent "Mission Statement and Overview" of the Manhattan Institute's Judicial Studies Program candidly proclaims how important it is to mold the media to the proper pro-reform views; indeed, this newsletter provides a prescription for just how to do so:

Journalists need copy, and it's an established fact that over time they'll "bend" in the direction in which it flows. For that reason it is imperative that a steady stream of *understandable* research, analysis and commentary supporting the need for liability reform be produced. If, sometime during the present decade, a consensus emerges in favor of serious judicial reform, it will be because millions of minds have been changed, and only one institution is powerful enough to bring that about: the combined force of the nation's print and broadcast media . . . .<sup>329</sup>

Of course, the Manhattan Institute's objective is to change the minds of the public and mold that consensus by providing this "steady stream" of ideas to the media. To that end, the long-tested techniques developed by Madison Avenue, including the market-testing of ideas,<sup>330</sup> are used by the Manhattan Institute to sell ideas,

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a book reaches as wide an audience as possible is perhaps the most important service we provide"). A primary focus on the marketing of ideas is not unique to the operations of the Manhattan Institute, among conservative organizations. As William Baroody, Jr., president of the conservative American Enterprise Institute, put it: "I make no bones about marketing. . . . We pay as much attention to the dissemination of product as to the content. . . . We hire ghost-writers for scholars to produce op-ed articles that are sent to one hundred and one cooperating newspapers—three pieces every two weeks." BLUMENTHAL, *supra* note 325, at 44 (quoting William Baroody, Jr.). Or as Edwin J. Feulner, Jr., president of the Heritage Foundation, explained: "Ideas are always ahead of the politicians. Ideas are refined through organizations like ours." *Id.* at 36 (quoting Edwin J. Feulner, Jr.). According to Feulner, whose Heritage Foundation's aggressive public relations strategy set the standard for (and helped to spawn) other think tanks and established its preeminent influence during the Reagan and Bush administrations, "It doesn't matter how many books and studies you produce. You've got to market your product, get it off the bookshelf." Carol Matlack, *Marketing Ideas*, NAT'L J., June 22, 1991, at 1552, 1552-53.

328. See, e.g., MISSION STATEMENT, *supra* note 38; TEN YEAR REVIEW, *supra* note 49; LIABILITY CRISIS, *supra* note 322; WINTER REPORT, *supra* note 327; Hammett Memorandum, *supra* note 324.

329. MISSION STATEMENT, *supra* note 38, at 2.

330. See TEN YEAR REVIEW, *supra* note 49, at 4 (reviewing first decade of Manhattan Institute's existence).

Sustaining a flow of fresh and innovative ideas is crucial for democratic societies, whose strength is derived from open and honest discussion. Before ideas are ready for the political arena, however, they must be tested in the crucible of informed opinion. . . . Since 1980 the Manhattan Institute has provided a setting for the introduction and discussion of ideas that many consider to be the best intellectual testing ground in the world—the Manhattan Forum. Designed to take advantage of New

shape public perceptions of a "legal system in crisis," and manufacture a supposedly spontaneous public outcry about the need to reform the legal system. In November 1992, the Manhattan Institute published a five-year summary of the Judicial Studies Program with a forward-looking "Mission Statement and Overview."<sup>331</sup> This publication both highlighted the Program's accomplishments and offered a coherent philosophy for continuing those achievements in the future: the continued promotion of writers such as Peter Huber.

According to the Manhattan Institute, the key to both achieving its past successes and attaining its future goals lies in its ability to "set[] the terms of the debate."<sup>332</sup> "The rhetoric of liability reform must incorporate transcending concepts, like consumer choice, fairness, and equity, while simultaneously pointing out the opposition's indifference or opposition to these values."<sup>333</sup> An earlier promotional brochure vaunted the "Manhattan Institute Approach" in shaping public debate<sup>334</sup>—an approach that easily explains how a book as inadequate as *Galileo's Revenge* could nonetheless enjoy such favorable publicity. What is critical, according to the Manhattan Institute, is not the research and analysis undertaken by an author, or the data discovered and ideas developed by an author; instead,

[An author's real] "Moment of Truth" . . . has just begun when his

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York's unique mix of opinion molders and leaders from the business, communications, and non-profit worlds, these gatherings have given wind to countless new ideas and original research findings.

*Id.*

331. MISSION STATEMENT, *supra* note 38, at 1-6.

332. MISSION STATEMENT, *supra* note 38, at 1.

333. MISSION STATEMENT, *supra* note 38, at 1-2 (describing how Manhattan Institute defines its marketing strategy). The section on "Setting the Terms of the Debate" further explained the Manhattan Institute's marketing strategy, including the tactic of piggy-backing tort reform "rhetoric" onto current populist themes:

Across a wide cultural horizon today powerful new ideas like choice, empowerment, and voluntarism are capturing the public imagination; they can and should be brought into the debate about legal reform. . . .

. . . .

For tort reform to maintain its rightful place as an issue of national interest and debate, it must broaden its appeal and move beyond its confrontational demeanor (e.g., lawyer-bashing). . . .

. . . .

Advocates of liability reform must link their arguments to a broader *agenda for the nineties*, by showing how consumers and taxpayers are, ultimately, in the same boat with manufacturers, service providers and insurers. . . . Such a "linkage" strategy would engage the following elements: The Financial Community . . . The Political Community . . . The Medical/Scientific Community . . . The Research/Academic Community . . . Professional Organizations . . . Civil Libertarians . . . [and] The Grass Roots-Consumer groups . . . .

*Id.* at 1-4.

334. See MANHATTAN INST. FOR POLICY RESEARCH, THE MANHATTAN INSTITUTE APPROACH 1 (1987) (on file with *The American University Law Review*) (explaining Manhattan Institute's philosophy and approach to informing the media).

or her book finally gets published. That is when it enters the critical process that will determine which, if any, of its ideas will endure. The Manhattan Institute has provided over three dozen authors of serious books an opportunity to present their ideas to a diverse, well-informed, and often critical, New York audience. Because of the caliber of our audiences, and the large number of writers, producers and reviewers attracted, a Manhattan Forum can often be the single most important factor in determining a book's acceptance and impact.<sup>335</sup>

In another fund-raising letter to corporate executives, President Hammett further explicated the Manhattan Institute Approach:

The strategy of the Judicial Studies Program centers on sponsoring the writing of first-rate books on civil justice reform. With book in hand, the Program then works to bring the ideas to a wide audience of specialists and lay persons through an imaginative promotion campaign. Briefly stated, [Judicial Studies Program] efforts are divided into two main areas: (1) *The Litigation Explosion* . . . [and] (2) *Science and Law* . . . . As to promotion, both projects present their ideas to popular and specialist audiences through a system of seminars, lectures and published articles. The Institute sponsors speaking engagements, regional workshops and seminars for judges and policy makers throughout the country. "Civil Justice Memos" are widely disseminated to judges and law professors as well as to business and government leaders. And, of course, Mr. Olson's and Mr. Huber's frequent media appearances encourage the circulation of ideas.<sup>336</sup>

The promotion of Manhattan Institute ideas, and specifically the promotion of Huber's work, is also fostered through Manhattan Institute mailings, video broadcasts, and the like.<sup>337</sup> Two techniques have been particularly effective. The first technique might be called,

335. *Id.* at 2.

336. Fundraising Letter, *supra* note 39, at 2-3. From January 1986 through May 1989, the Judicial Studies Program sponsored 23 conferences, forums, workshops, and judicial seminars on civil justice reform. TEN YEAR REVIEW, *supra* note 49, at 15. The 10 judicial seminars were chaired by leading conservative judges such as Judge Alex Kozinski of the U.S. Court of Appeals for the Ninth Circuit, Judge Frank Easterbrook of the U.S. Court of Appeals for the Seventh Circuit, and Judge Patrick Higginbotham of the U.S. Court of Appeals for the Fifth Circuit. *Id.*

337. For example, "the Manhattan Institute used \$200,000 in corporate and individual contributions to produce what [Manhattan] Institute President William Hammett calls 'the documentary' to bring the issue [of tort reform] before the public." Sandra Torrey, *Walter Cronkite Video Helps Stir Up Debate over Tort Reform*, WASH. POST, Sept. 14, 1992, at F5. The video, which stars Peter Huber and is narrated by retired CBS anchorman Walter Cronkite, brings together an array of influential spokesmen, including former surgeon general C. Everett Koop and Atlanta Mayor Maynard Jackson. [For example, an] Illinois businessman tells a horror story about a \$5 million judgment against his company. The video doesn't say so, but the company is a subsidiary of Cooper Industries, Inc., whose foundation donated \$50,000 to make the video.

*Id.*

for lack of a more descriptive phrase, "creating a chain reaction"—a process by which positive testimonials written by favorably inclined book reviewers are not only provided to potential contributors, but are also furnished to other potential reviewers, thereby encouraging them to write equally glowing assessments.<sup>338</sup> This technique perhaps explains how a book as demonstrably bad as *Galileo's Revenge* has received book reviews that have been nearly unanimously favorable.

The second technique is similar to the first. Whereas sowing enthusiastic book reviews in order to reap additional approving reviews relies on a network of like-minded tort reformers to write the initial reviews, attaining a critical mass of media interest and opinion leader support at conferences, seminars, and lectures depends on finding friendly audiences. The Manhattan Institute's boast that Huber and company regularly participate in academic conferences is accurate—as far as it goes. What the Manhattan Institute neglects to mention, however, is that Huber only infrequently appears outside the friendly confines of programs hosted by tort reform organizations or by conservative think tanks and foundations.<sup>339</sup> Thus, Huber regularly appears on programs sponsored by, or has his books and videotape sold through the offices of, allied associations like the American Tort Reform Association,<sup>340</sup> the Products Liability Coordinating Committee,<sup>341</sup> the Insurance Information Institute,<sup>342</sup> the Heritage Foundation, the American Enterprise Institute, and the Federalist Society.<sup>343</sup>

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338. For example, for the stated purpose of "informing and broadening public debate," the Manhattan Institute sent out, shortly after *Galileo's Revenge* was published (but before most reviews were written), a "packet [that] contain[ed] some of the early [and positive] press clippings generated by the book." MANHATTAN INST. FOR POLICY RESEARCH, MANHATTAN INSTITUTE PRESS PACKET 1 (Oct. 28, 1991) (on file with *The American University Law Review*).

339. Huber occasionally does appear in such neutral venues as *Face the Nation* and the *McNeil/Lehrer NewsHour*. See Peter Huber To Address Nat'l Governors' Ass'n, PR Newswire, July 26, 1989, available in LEXIS, Nexis Library, Omni File (reporting that Huber has appeared in neutral venues).

340. See AMERICAN TORT REFORM ASSOC., LAWSUIT ABUSE 1 (1992) (on file with *The American University Law Review*) (advertising Peter Huber/Walter Cronkite videotape, *Liability: Injustice for All*).

341. See Peter Huber To Address Nat'l Governors' Ass'n, *supra* note 339 (announcing that Huber would present address on "Product Liability & International Competitiveness" at meeting of National Governors' Association in Chicago on July 31, 1989 and advising persons interested in more information to contact Product Liability Coordinating Committee).

342. See Mark A. Hofmann, *III To View Industry's Public Image*, BUS. INS., Jan. 20, 1992, at 27, 27 (reporting that Insurance Information Institute's (III) outgoing chairman, Gerald A. Isom, announced "plans this year to join in the communications efforts of the Manhattan Institute . . . and the American Tort Reform Association to make the public aware of the 'intolerable costs' of the civil justice system"); Laura Mazzuca, *Huber Trashes "Junk Science"*, BUS. INS., May 18, 1992, at 60, 60 (discussing Huber's speech at National Association of Insurance Brokers conference).

343. See Hatch, Strossen, Bork, Kennedy Among Headliners at Fifth Annual Federalist Society Con-

Huber bestrides that conservative sphere of influence like a colossus, but he rarely ventures outside it. Nor need he, as the network is comprised of more than one hundred tort reform groups, civil justice reform organizations, multi-issue conservative think tanks, and conservative public interest law firms, all supported by conservative foundations, industry and insurance trade associations, as well as individual corporations; the resources made available in that network to promote books such as Huber's are staggering.<sup>344</sup> Huber's suc-

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vention, U.S. Newswire, Sept. 13, 1991, available in LEXIS, Nexis Library, Omni File (announcing that Huber would be luncheon speaker on September 14, 1991).

344. The network of single-issue tort reform organizations includes: the America Tort Reform Association; Citizen's Coalition for Truth in Science; Citizens for Civil Justice Reform; Coalition for Uniform Product Liability Reform; Lawyers for Civil Justice; Product Liability Advisory Board; Product Liability Advisory Council; Product Liability Alliance; Product Liability Information Bureau; and Product Liability Coordinating Committee. These single-issue tort reform groups are aided by such multi-issue think tanks as the Manhattan Institute; American Enterprise Institute; American Legislative Exchange Council; Brookings Institution; Cato Institute; Center for Individual Rights; Center for Judicial Studies; Competitive Enterprise Institute; Federalist Society; Heartland Institute; and the Heritage Foundation. Multi-issue conservative public interest law firms include the National Legal Center for the Public Interest; American Legal Foundation; Capital Legal Foundation; Gulf & Great Plains Legal Foundation; Landmark Legal Foundation; Mid-America Legal Foundation; Mid-Atlantic Legal Foundation; Mountain States Legal Foundation; New England Legal Foundation; Pacific Legal Foundation; Southeastern Legal Foundation; and the Washington Legal Foundation.

Both the single-issue tort reform groups and the multi-issue conservative think tanks are supported by contributions and sometimes the separate efforts of industry and insurance trade associations, including: Alliance of American Insurers; American Council of Life Insurers; American Corporate Counsel Association; American Insurance Association; American Medical Association; American Mining Congress; Business Roundtable; Committee for Economic Development; Conference Board; Chemical Manufacturers Association; Defense Research Institute; Health Insurance Association of America; Insurance Information Institute; Insurance Research Council; International Association of Defense Council; National Association of Manufacturers; National Association of Mutual Insurance Companies; National Association of Wholesalers-Distributors; National Tool Builders Association; Pharmaceutical Manufacturers Association; Risk & Insurance Management Society; and the U.S. Chamber of Commerce. Corporate foundations include the following: Bradley Foundation; Broyhill Foundation; Coors Foundation; Deer Creek Foundation; Fund for American Renaissance; Health Education Foundation; J.M. Foundation; Lilly Endowment; Murdock Foundation; John M. Olin Foundation; Pew Charitable Trust; Richardson Foundation; Sarah Scaife Foundation; Starr Foundation; and Walker Foundation. Support also derives from corporations and insurance companies far too numerous to mention. See generally BLUMENTHAL, *supra* note 325, at 32-40 (discussing evolution of conservative ideology); JOHN S. SALOMA III, *OMINOUS POLITICS: THE NEW CONSERVATIVE LABYRINTH* 7-23 (1984) (tracing buildup of conservative organizations and effect on political system); JAMES A. SMITH, *THE IDEA BROKERS: THINK TANKS AND THE NEW POLICY ELITE* 202-03, 207, 214-15 (1991) (explaining think tanks' efforts to define conservative ideology).

For a discussion of the revolving door between the aforementioned groups and the Reagan and Bush administrations, see W. John Moore, *Keeping the Faith*, 23 NAT'L J. 734, 735-36 (1991) (reporting that ex-officials from Reagan Justice Department "network" in and through such groups as Federalist Society, Washington Legal Foundation, Ethics and Public Policy Center, Cato Institute, Center for Law & Democracy at Free Congress Research and Education Foundation, Heritage Foundation, and Landmark Legal Center for Civil Rights). For a discussion of how Fortune 500 companies such as Exxon and General Motors created, organized, and financed a nationwide network of conservative, pro-business public interest law firms, including the Pacific, Mountain States, Mid-America, Gulf Coast and Great Plains, Mid-Atlantic, Southeastern, New England, and Capital Legal Foundations and the National Legal

cess thus reflects not only the agenda and resources of his employer, the Manhattan Institute, but also the place that it holds in the universe of enormously influential conservative organizations—the last subject for brief exploration in this Article. Huber's book can be fully understood only by considering it as a product of an aggressive revival of corporate activism dating back three decades.

### D. *The Veiled Origins and Broad Influence of the Manhattan Institute*

Although the Manhattan Institute is loathe to admit it now, its central founder was a protean figure of the American right, William J. Casey.<sup>345</sup> Casey, who was present at the creation of the Office of Special Services during World War II and who presided over the rebirth of the CIA as Ronald Reagan's Director of Central Intelligence, established the Manhattan Institute in 1978 under the name "The International Center for Economic Policy Studies"<sup>346</sup> just before he became director of Reagan's 1980 election campaign.

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Center for the Public Interest, see Oliver A. Houck, *With Charity for All*, 93 YALE L. J. 1415, 1456-1512 (1984) (noting that these firms promoted "New Right" philosophy in judicial system). For a discussion of the influence of such groups as the Federalist Society at the nation's law schools, see Neil A. Lewis, *Conservative 'Outsiders' Now at Hub of Power*, N.Y. TIMES, Mar. 29, 1991, at B16 (reporting that during 1980s, Federalist Society grew from isolated fringe groups at few law schools to organization with more than 3000 faculty and student members at 120 law schools and annual "budget of more than \$700,000, largely from conservative groups like the John M. Olin Foundation and the Bradley Foundation"). According to Lewis, "Many former student members hold important posts in the Bush Administration and several others . . . are junior law professors." *Id.* In the words of Harvard Law School Professor Christopher Edley, Jr., "'They're practically running the country.'" *Id.*

345. See BLUMENTHAL, *supra* note 325, at 206 (noting William Casey's "deep roots" in conservative movement); SMITH, *supra* note 344, at 285 (noting that William Casey founded International Center for Economic Policy Studies that was renamed in 1981 and is now called Manhattan Institute for Policy Research); Marvin Gottlieb, *Conservative Policy Unit Takes Aim at New York*, N.Y. TIMES, May 5, 1986, at B4 (noting that Casey founded Manhattan Institute); *Think-Tanks: The Carousels of Power*, ECONOMIST, May 25-31, 1991, at 23, 24 (noting that Casey created Manhattan Institute for Policy Research and that think tanks developed prevailing concepts of domestic welfare policy); see also Keith Henderson, *Think Tanks Spread Free-Market Ideas Worldwide*, CHRISTIAN SCI. MONITOR, May 3, 1985, at 23 (recognizing that Casey, abetted by British citizen Sir Antony G.A. Fisher, was progenitor of nearly three dozen conservative think tanks and foundations around the globe); John A. May, *A Quiet Briton Whose Think Tanks Back a Free Market*, CHRISTIAN SCI. MONITOR, Jan. 19, 1984, at 9 (acknowledging Fisher's influence in founding of Manhattan Institute).

Over the years, Casey and Fisher have been joined by other leading members of the conservative "Counter-Establishment," including: Edwin J. Feulner, Jr. (head of the Heritage Foundation, another conservative think tank); William E. Simon (former Nixon Treasury Secretary, chair of the Institute for Educational Affairs, and president of the John M. Olin Foundation, which is the biggest financial contributor to conservative groups and causes); R. Randolph Richardson (of the Richardson Foundation); J. Peter Grace (Grace Shipping); corporate raider T. Boone Pickens, Jr. (Mesa Petroleum); Ronald S. Lauder (heir to the Revlon fortune); financier Shelby Cullom Davis; Lewis E. Lehrman (director of Morgan Stanley & Co.); Walter Wriston (chair of Citicorp); Nathan Glazer (Harvard professor and neoconservative guru); and columnist Ernest van den Haag. TEN YEAR REVIEW, *supra* note 49, at 24.

346. The International Center for Economic Policy Studies changed its name to the Manhattan Institute for Policy Research in 1981, after Casey took over at the CIA, in order "to reflect an expanded policy agenda." HISTORY AND BACKGROUND, *supra* note 321, at 1.

The Manhattan Institute's reticence to acknowledge its paternity<sup>347</sup> presumably stems from the current perception of Casey as "the manipulative puppet master of the Reagan Administration" who took "so many unresolved mysteries to the grave."<sup>348</sup> Perhaps Casey's reputation for "operat[ing] in a world of manipulated fact and disinformation, a place where candor is rarely considered a virtue,"<sup>349</sup> strikes too close to home for the Manhattan Institute, given some of its chosen methods for influencing public opinion.

In contrast to its veiled origins, the Manhattan Institute makes no secret of its membership in a massive network of conservative organizations that was self-consciously created by the legion of frustrated and wealthy Goldwater supporters in the aftermath of Goldwater's failed 1964 bid for the presidency.<sup>350</sup> Why, these conservatives asked, do "bad" (meaning liberal) ideas triumph over "good" (meaning conservative) ones? The answer, they decided, was that liberals controlled the dominant think tanks of that day, such as the Brookings Institution. Therefore, the liberals dominated the nation's media and the nation's thoughts.<sup>351</sup> These wealthy conservatives set about to build a parallel universe of think tanks, first to match, and then to overwhelm the liberal intellectual opposition.<sup>352</sup> The election of Ronald Reagan marked the triumph

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347. The most the Manhattan Institute says nowadays about Casey is that he was an emeritus trustee. TEN YEAR REVIEW, *supra* note 49, at 24.

348. Daniel Schorr, *Artful Dodger of the CIA: Casey: From the OSS to the CIA*, L.A. TIMES, Oct. 28, 1990, (Book Review) at 8; see JOSEPH E. PERSICO, CASEY 561 (1990) (noting Casey's "lifelong reputation for wheeling and dealing").

349. Ed Magnuson, *Death of an Expert Witness: William Joseph Casey: 1913-1987*, TIME, May 18, 1987, at 37, 37.

350. See RICHARD REEVES, THE REAGAN DETOUR 23-32 (1985) (crediting Ronald Reagan as leader and spokesman of conservative institutions and movement); SALOMA, *supra* note 344, at 3-23 (tracing growth in 1980s of conservative think tanks); SMITH, *supra* note 344, at 167-213 (discussing conservative counterestablishment movement and origin of think tanks); see also BLUMENTHAL, *supra* note 325, at 4 (depicting rise of conservative "counterestablishment"). Blumenthal writes:

To counteract th[e] Liberal Establishment, which conservatives believed encompassed both political parties, they deliberately created the Counter-Establishment. By constructing their own establishment, piece by piece, they hoped to supplant the liberals. Their version of [the] Brookings [Institution]—the American Enterprise Institute—would be bigger and better. The [John M.] Olin Foundation would give millions, with greater effectiveness than Ford. The editorial pages of the Wall Street Journal would set the agenda with more prescience than The New York Times. And although the Washington Times, funded by Reverend Sun Myung Moon, wasn't a formidable adversary for the Washington Post, a new generation of advocacy journalists, planted in a host of newspapers, would begin to create an alternative presence.

BLUMENTHAL, *supra* note 325, at 4-5.

351. See M. STANTOR EVANS, THE LIBERAL ESTABLISHMENT 18 (1965) (noting general conservative belief in 1965 that "the [l]iberal [establishment] [was] . . . in control"). Evans asserted that the liberal establishment wielded power by controlling "the instruments of public scrutiny" and directing popular opinion. *Id.*

352. Richard Reeves noted:



of their strategy and the ascendancy of conservative views.<sup>353</sup> As the Manhattan Institute itself has boasted, "The Manhattan Institute was at the forefront of this movement."<sup>354</sup>

With the Manhattan Institute at its fore, the conservative movement has been very successful in promoting the views of pro-tort reform writers such as Huber and in obtaining wide attention for their ideas, even where those ideas leave much to be desired in terms of scholarship. In a recent article, Cornell law professors James A. Henderson, Jr. and Theodore Eisenberg attribute the declining fortunes endured by plaintiffs since 1979, which they describe as amounting to a "slaughter" since 1985,<sup>355</sup> partially to the extraordinary effectiveness of the public relations campaigns waged by tort reform groups like the Manhattan Institute's Judicial Studies Project.<sup>356</sup>

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In the twenty years from 1964 to 1984, the Capitol of the United States was surrounded, figuratively and literally, by dozens of conservative institutions staffed with aggressive scholars, researchers and pamphleteers proposing and refining ideas like tax reform, and deregulation, and aggressive international unilateralism. They pulled together and honed a coherent set of ideas, a view of America and the world that was persuasively articulated by Reagan.

REEVES, *supra* note 350, at 23-24.

353. See, e.g., George H. Nash, *Completing the Revolution: Challenges for Conservatism After Reagan*, HERITAGE FOUND. POL'Y REV., Spring 1986, at 35, 35 (describing rise of conservative movement).

354. TEN YEAR REVIEW, *supra* note 49, at 1. At the end of its first decade, the Manhattan Institute observed:

The past ten years have seen many old assumptions about the role of government turned upside down. The continuing revolution that began in the eighties owes much to pressures from technologies and a competitive world economy, but even more to a wave of fresh ideas that swept away the intellectual complacency of previous decades. Many of those ideas were promoted by a handful of independent research centers whose sole reason for being was to question established opinion.

The Manhattan Institute was at the forefront of this movement . . . .

*Id.*; see also Gregg Easterbrook, *Ideas Move Nations*, ATLANTIC, Jan. 1986 at 66, 66 (noting think tanks' contribution to intellectual conservatism); William Safire, *Tanks for the Memories*, N.Y. TIMES, Sept. 1, 1986, at A23 ("In the past generation, political think tanks have done much to make conservatism a respectable and dynamic intellectual alternative to the liberalism that permeated academia from the New Deal through the Great Society.").

355. See Theodore Eisenberg & James A. Henderson, Jr., *Inside the Quiet Revolution in Products Liability*, 39 UCLA L. REV. 731, 770 (1992) (reporting that "[f]rom 1985 to the time of the most recently available data, the products battle has been a slaughter. Filings began to plummet; success rates continued to fall. Most measures of awards—means, expected returns, and sums—are down. Medians are equivocal."). For example, "[p]laintiff [s]uccess rates in published opinions fell from 56% in 1979 to 39% in 1989, a drop of 29%. At the federal district court level . . . plaintiff success rates fell from 41% in 1979 to 31% in 1989, a drop of 24%." *Id.* at 741.

These factual assessments are substantiated by a number of other studies, including SEAN F. MOONEY, CRISIS AND RECOVERY: A REVIEW OF BUSINESS LIABILITY INSURANCE IN THE 1980S (1992). For example, Dr. Mooney reports that whereas "[b]etween 1978 and 1985, paid claims for general liability insurance increased at an average annual rate of 21.1 percent . . . [p]aid claims for general liability increased at an average rate of 7.8 percent from 1986 to 1990 . . . considerably below the rate of 21.1 percent for the pre-crisis period from 1978 to 1985." *Id.* at 1, 5-23.

356. See Eisenberg & Henderson, *supra* note 355, at 778-79, 789-95 (discussing influence

Professors Henderson and Eisenberg explain how assiduously tort reform groups and their allies have influenced the public, including the nation's judiciary:

Using every technique of modern media-shaping, tort reform groups sought to assure that the public believed that products liability law was the cause of this threat to our way of life. The message was carried, and is carried, through a variety of media: massive print media advertising campaigns; television appearances on "The Today Show," "Good Morning, America," and the "McNeil-Lehrer News Hour," purchased television time; and reports of surveys of business and public opinion.<sup>357</sup>

Henderson's and Eisenberg's conclusion suggests that the contest for public opinion, and for the support of the nation's judges, law

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of tort reform movement). After careful examination of the possible reasons for this "slaughter," Eisenberg and Henderson discount both geographical variations and differences in categories of products as possible causes for the dramatic decline in plaintiffs' fortunes. *Id.* at 772-74, 778-79. They similarly scrutinize, and likewise reject, the enactment of civil justice reform statutes as a dispositive factor. *Id.* at 774-78. Thus, "the pro-defendant opinion trend is not isolated to states in which reform was enacted during the relevant period." *Id.* at 776. Professors Henderson and Eisenberg also explore and determine that "shifts in accident trends," "changes in plaintiffs' propensity to make claims," and "changes in post-claim, pre-filing settlement behavior" cannot satisfactorily explain the observed patterns. *Id.* at 748-60. Interestingly, the authors also reject the notion that the pro-defendant trend since 1979 has simply been the consequence of Reagan-Bush appointments to the federal bench. Accordingly:

[O]ne explanation frequently mentioned is the growing influence of President Reagan's judicial appointees. . . . [W]e think the explanation falters for two reasons.

First, although our district court non-opinion data are all federal, the published opinion data are dominated by state court opinions. The trend in state appellate opinions is very similar to the trend in federal appellate opinions. To the extent appellate judges shape the law, the growing influence of Reagan's federal appellate appointees has not led the pro-defendant trend. It seems more likely that the federal district court judges responded to stated changes in legal doctrine, and that the pro-defendant thrust of those changes comes from state judges with no direct connection to Reagan.

Second, the litmus test issues for Reagan judges have been public law issues such as abortion, civil rights, and affirmative action. Potential appointees' views of state products liability law have not been mentioned as a prominent feature of any president's judicial selection process. Although appointees with conservative views on public law issues might be expected to be hostile to products liability, the subordinate role of products liability in the selection process might not produce a noticeable trend in decisions.

*Id.* at 790-91 (footnotes omitted).

357. Eisenberg & Henderson, *supra* note 355, at 793 (footnotes omitted). Tort reform groups openly acknowledge the dimensions of their advertising campaign and proudly boast of its achievements. For example, the American Tort Reform Association (ATRA) announced that its "'LAWSUIT ABUSE! Guess who picks up the tab?' communication campaign has resulted in orders of more than 55,000 information kits, 300,000 posters, 200,000 brochures and more than 100,000 bumper stickers." ATRA Press Release, June 5, 1992 (on file with *The American University Law Review*). ATRA also claims that these sorts of advertisements have produced "a dramatic and measurable change in the outcome of civil trials" in at least one area, the Rio Grande Valley of Texas, where they have been widely distributed. *Tort Reformers Say Advertising Pays, Even in Texas*, *LIABILITY WK.*, Feb. 10, 1992, at 1 (quoting ATRA President Martin Connor).

professors, and law students, may already have been won by the tort reformers:

Even if subsequent analyses suggested other possible causes of the insurance crisis,<sup>358</sup> the public's mind had been shaped. The intricacies of the insurance cycle and insurance company investment returns could not be grasped as easily, nor were they as forcefully marketed, as was the idea that products liability was the cause of the insurance crisis. Many reform statutes were enacted; many others were defeated after vigorous efforts to secure enactment. However, products liability reformers apparently succeeded in the larger legislature of public opinion, even though they failed to secure passage of anywhere near all the legislation they sought. Among those apparently influenced were the appellate and district court judges who, at least since 1985, have increasingly favored defendants. These judges ultimately underlie the quiet revolution, and they have not been bounded by state lines, reform status, or product categories.<sup>359</sup>

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358. Eisenberg and Henderson convey that "[t]his is not the place to decide whether there was a 1980s insurance crisis or whether the products liability system had a substantial role in causing it. Although evidence links tort reform and declining insurance rates, one also has reason to be skeptical." Eisenberg & Henderson, *supra* note 355, at 792.

359. Eisenberg & Henderson, *supra* note 355, at 794 (footnote omitted). Stated differently:

The 1980s pro-defendant movement is not the result of sharp reversals in a few jurisdictions; rather, it is truly national, with most states showing defendant success rate increases in the second half of the 1980s. Nor did the national trend result from shifts in a few important products categories. As best we can tell, the trend spans nearly all nonasbestos products lines. Legislative reforms do appear to have contributed; but even in non-reform states, the success rate of products cases has declined. A widespread, independent shift in judicial attitudes continues to be the likely major source of the decline.

This general shift in attitude suggests that the tort reform movement of the 1970s and 1980s may have succeeded in a broader sense even if it failed to achieve many of its more specific legislative goals.

*Id.* at 734.

All three strands of the Henderson/Eisenberg thesis—first, that plaintiffs' fortunes have declined since 1985; second, that the decline is due to changed judicial attitudes; and third, that the attitudes of judges have been changed by a corporate public relations campaign targeted at the public in general and at judges in particular—are supported by Dean Teresa M. Schwartz. Teresa M. Schwartz, *Product Liability Reform by the Judiciary*, 27 GONZ. L. REV. 303 (1991-1992). First, Dean Schwartz notes that a review of leading cases in various areas of tort law reveals that courts have embarked on a new, pro-defendant path in recent years. *Id.* at 318-33. As one example of this pro-defendant retrenchment, she notes that courts, particularly well-respected state supreme courts like those of New Jersey, New York, and California that had a long tradition of being pro-plaintiff, are today consistently "rejecting [liability-expanding] claims that would open whole new categories of claims." *Id.* at 318.

Second, new judicial attitudes are reflected in the rationales for these anti-plaintiff decisions, as well as in the decisions themselves. *Id.* at 323-33. Thus, judges are increasingly "seeing adverse consequences from the product liability system" and are looking for "a more limited role for [themselves,]" as exemplified by increasing deference to both legislatures and regulatory agencies. *Id.* at 324-33. Third, Dean Schwartz, like Professors Henderson and Eisenberg, identifies one possible reason for this judicial shift in attitude—extensive corporate media-shaping:

According to a recently published research monograph by two University of Delaware sociologists, Valerie P. Hans and William F. Lofquist, the same tidal wave of civil justice reform advertising that has transformed judicial attitudes has also changed juror attitudes previously regarded as pro-plaintiff and anti-corporate.<sup>360</sup> Today, according to Professors Hans and Lofquist:

Rather than revealing jurors willing or eager to impose on business the costs of plaintiffs' injuries, our findings show that jurors were suspicious of the legitimacy of plaintiffs' claims and concerned about the personal and social costs of large jury awards. Despite insistence on product safety and high expectations of business, jurors 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>361</sup>

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Critics of the product liability system have been highly visible and effective. They have come from all quarters—business, government, and academia. . . . The business interests pushing for product liability reform are well organized and have committed substantial resources to promote their aims. They have gathered together sizeable coalitions of manufacturers and insurers to work for reform. They have been able to fund studies of the system that support their views and to get the results of their studies into the news media . . . . Tort scholarship, once at the forefront of efforts to expand the product liability law, now largely supports the constriction of the product liability system. . . . [T]here has been nearly a "consensus" in academic writing that the expansion of the product liability system, "whatever its magnitude, has generated much more harm than good."

*Id.* at 306-08 (citations omitted). According to Dean Schwartz, the "widespread criticism of the product liability system . . . has begun to have an impact on the judiciary." *Id.* at 304. Thus, judges often parrot this propaganda, repeating civil justice reform "horror stories" line by line:

[Judicial] [o]pinions that reject new liability expanding claims often sound the themes of the tort system's critics, e.g., that the system is out of control, imposes burdensome costs on businesses and consumers, deters manufacturers from marketing worthwhile products and from research and development, and makes U.S. products less competitive in world markets.

*Id.* at 304-05.

360. See Valerie P. Hans & William S. Lofquist, *Jurors' Judgments of Business Liability in Tort Cases: Implications for the Litigation Explosion Debate*, 26 LAW & SOC'Y REV. 85, 108 (1992) (reporting that survey of jurors in tort/business cases revealed skepticism of plaintiffs' claims and conservative approach to damages awards).

361. *Id.* at 93. Generally, "tort jurors had strong negative views about the frequency and legitimacy of civil lawsuits." *Id.* According to the survey, 83% of the tort jurors sampled either agreed or strongly agreed with the statement that "[t]here are far too many frivolous lawsuits today"; 81% agreed or strongly agreed with the proposition that "[p]eople are too quick to sue"; 39% agreed or strongly agreed with the assertion that "[t]he money awards that juries are awarding in civil cases are too large"; and 32% agreed or strongly agreed that "[t]he number of lawsuits show that our society is breaking down." *Id.* at 95.

On the other hand, "[c]ontrary to the skepticism shown plaintiffs, corporate defendants were typically not subjected to such vigorous scrutiny." *Id.* at 97. Hans and Lofquist "found little evidence of tough standards and punitiveness [by jurors] toward . . . corporation[s]." *Id.* at 100. They learned that most jurors evinced only "scattered concern about the profit motive causing business to cut corners." *Id.* at 104. Most jurors polled thought that an "organization's assets should not be and were not relevant to the liability and award decisions." *Id.* at 106. The study found that jurors' "comments derogating business were rare compared to the more frequent negative evaluations of the plaintiffs and their [putatively] mercenary motives."

Finally, Hans and Lofquist conclude that one force affecting the attitudes of jurors is "[t]he concerted efforts of business and insurance companies to foster perceptions of a litigation explosion."<sup>362</sup> Hans and Lofquist also surmise that the "litigation explosion rhetoric captured the public's (and jurors') attention because [such rhetoric] resonated strongly with pre-existing cultural standards of responsibility."<sup>363</sup>

Although any particular organization's importance to such concerted efforts is usually difficult to assess,<sup>364</sup> one indicator that the Manhattan Institute is a major player in the tort reform movement—and a notable outcome of that movement—is the prominence of its fellow Peter Huber. In 1986, leaders of the tort reform movement, who were clearly identified as partisan mouthpieces for corporate America, could herald Huber as something new under the sun, a thinker "‘untainted by any relationship with the manufacturers who are leading the fight for tort reform.’"<sup>365</sup> Seven years have passed, during which Huber has been continuously employed with the Manhattan Institute's Judicial Studies Program, helping to carry out its mandate to promote the civil justice reforms favored by the corpo-

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*Id.* at 104. The numbers bear out their conclusions. Fifty-seven percent of the tort jurors sampled either agreed or strongly agreed with the statement that "[t]he threat of lawsuits is so prevalent today that it interferes with the development of new and useful products"; 51% agreed or strongly agreed with the view that "[b]ig business in this country is adequately concerned with the safety of its workers"; and 32% agreed or strongly agreed with the notion that "[t]he courts have meddled so much in the workplace that many businesses are not able to remain competitive." *Id.* at 99.

The survey results published by Hans and Lofquist are consistent with those reported earlier this year by The Roper Organization, Inc. See *To Sue or Not To Sue: Public Backs Liability Reform*, PUB. PULSE, Aug. 1991, at 6 (charting tort reform poll). According to the Roper poll, 70% of the persons surveyed agreed that "[l]awyers and law firms make much more money than they deserve"; 63% agreed that "[p]eople often start frivolous lawsuits because awards are so big and they have so little to lose"; only 40% of the people queried said that the major effect of liability suits is for "[v]ictims [to] get fair compensation for what they have suffered or lost"; and "two-thirds . . . support caps on compensation for pain and suffering, and half would limit amounts granted to cover lost income." *Id.*

362. Hans & Lofquist, *supra* note 360, at 109.

363. Hans & Lofquist, *supra* note 360, at 109.

364. This is so because while these conservative organizations collectively advocate conservative views, they individually compete with each other for corporate cash, making any single organization's claim that it is more important than any of the others somewhat suspect. For example, according to a recent fundraising letter from Manhattan Institute President William M.H. Hammitt to corporate executives, contributing money to the Manhattan Institute is the wisest of investments. MISSION STATEMENT, *supra* note 38, at i ("Our books have been extremely influential; no less an authority than *The Washington Post* [has] hailed them as the driving force behind the [tort] reform movement (and dubbed their authors—Peter Huber and Walter Olson—the 'gurus' of tort reform).").

365. W. John Moore, *Free-Lance Critic Hits Shackles of Regulation*, 18 NAT'L J. 2797, 2797 (1986) (quoting Victor Schwartz as stating that Huber's 1985 tort reform article was "intellectual underpinning" of tort reform effort).

rate contributors of the Manhattan Institute.<sup>366</sup> Huber hardly seems "untainted" now.

Of course, the source of support for Huber's work, and the role this work plays in fulfilling the agenda of the Manhattan Institute and its contributors, do not, in and of themselves, render Huber's scholarship worthless. They do require that the informed reader keep in mind the potential source of bias and, in that light, carefully analyze all of Huber's statements and arguments. Likewise, given the massive promotion of Huber by the Manhattan Institute and its affiliated conservative organizations, the reader must not assume that the sheer notoriety of Huber's scholarship necessarily reflects real merit.

### CONCLUSION

"A lie can be halfway round the world before the truth has got its boots on."<sup>367</sup> In the case of *Galileo's Revenge*, the massive promotion of the book and its author by the Manhattan Institute have fast out-run the flaws in the book and have long obscured the lack of merit in its analysis. Unlike the typical nonfiction book on policy issues that legitimately succeeds with a core synthesis of careful research and reporting of facts, the prominence of *Galileo's Revenge* springs chiefly from the perceived scholarly credentials of its author and the marketing of both the author and the book by the Manhattan Institute. The analysis in the book itself is mostly smoke and mirrors. Although best-selling books on policy issues in the legal arena and elsewhere often draw their share of critics who dispute the premises, logic, and conclusions of the arguments made, there are few cases in which readers who take the care to check the details are led to doubt the fundamental integrity of the book or of the author. *Galileo's Revenge* is one of these unfortunate cases; the long-overdue critical examination of the book offered in the preceding pages reveals disturbing problems.

In the subtitle to his book, and as a constant refrain throughout, Huber complains of "Junk Science in the Courtroom." Yet much of Huber's response to this supposed scourge can be most aptly described as "Junk Scholarship Outside the Courtroom." Huber's brand of "scholarship" in his legal writing employs distortion of the facts of cases and of the content of legal doctrines, including an ig-

366. See *supra* notes 38, 326 and accompanying text (discussing Huber's position with Manhattan Institute).

367. British Prime Minister James Callaghan, quoted in THE MACMILLAN DICTIONARY OF QUOTATIONS 349:9 (1989).

norance of controlling constitutional principles. If presented in a courtroom in the form of a legal brief, such analysis would likely trigger sanctions under rule 11 of the Federal Rules of Civil Procedure.<sup>368</sup> Likewise, such "scholarship" would be unacceptable if presented in a dissertation or research report. Major faults in *Galileo's Revenge* include, particularly: (1) Huber's studied concealment from readers that fully two-thirds of the supposed "cancer-by-pothole" cases he discusses involved uncontroversial claims merely that existing cancer was aggravated by trauma;<sup>369</sup> (2) Huber's failure to report that his sources on cerebral palsy severely criticize, or recant, the preliminary report of scientists whose views Huber claims have consensus status;<sup>370</sup> (3) Huber's attempt to portray the \$5.1 million spermicide award in *Wells v. Ortho Pharmaceutical Corp.* as runaway junk science, by falsely claiming that it was a jury "verdict" based upon a single, tentative study, after which "the several authors of that study" unanimously retracted their earlier findings;<sup>371</sup> (4) Huber's rewriting of the legal history of the *Frye* rule;<sup>372</sup> (5) Huber's pretension that judges are free to enforce their own "rule of fact" unencumbered by the well-established Seventh Amendment right to jury trial;<sup>373</sup> and (6) Huber's general failure to cite opposing authority on central topics and to note obvious counter-examples to points he makes that are necessary to give a full and fair portrait of the topics.

Perhaps these and other faults in Huber's book could be defended by Huber or his supporters as instances not of willful distortion and

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368. Rule 11 provides, in relevant part, that an attorney's filing of a legal document "constitutes a certificate by the signer that the signer has read the pleading, motion, or other paper; that to the best of the signer's knowledge, information, and belief formed after reasonable inquiry it is well grounded in fact and is warranted by existing law or a good faith argument for the extension, modification, or reversal of existing law." FED. R. CIV. P. 11. See generally 5A CHARLES A. WRIGHT & ARTHUR R. MILLER, *FEDERAL PRACTICE AND PROCEDURE* §§ 1331-1339 (2d ed. 1990 & Supp. 1993) (discussing rule 11). Sanctions are common "when the party's position is groundless under existing law, there is a failure to cite controlling law, or there is a misstatement as to the content of existing law." *Id.* § 1335. Similarly, rule 11 also "prohibits a party from rewriting the factual record to reflect what it thinks should have occurred." *Teamsters Local No. 579 v. B&M Transit, Inc.*, 882 F.2d 274, 280 (7th Cir. 1989); see also James E. Ward IV, Note, *Rule 11 and Factually Frivolous Claims—The Goal of Cost Minimization and the Client's Duty To Investigate*, 44 VAND. L. REV. 1165 (1991) (discussing merits of rule).

369. For a discussion of Huber's treatment of the cancer-by-pothole cases, see *supra* notes 106-25 and accompanying text.

370. For a discussion of Huber's conclusions regarding the relationship between obstetric malpractice and cerebral palsy, see *supra* notes 126-46 and accompanying text.

371. For a discussion of Huber's treatment of *Wells*, see *supra* notes 147-58 and accompanying text.

372. For a discussion of Huber's distortion of the *Frye* rule's history and current status, see *supra* notes 234-68 and accompanying text.

373. For a discussion of the role of the jury in resolving factual issues, see *supra* notes 268-312 and accompanying text.

evasion, but of "merely" shoddy research or negligent analysis—although this explanation would be groundless in response to a rule 11 motion for sanctions, for which "an empty head and a pure heart" is no excuse.<sup>374</sup> Even indulging this defense, Huber's many failures to meet minimal standards of trustworthiness imposed by the legal and scholarly communities should disqualify *Galileo's Revenge* as worthy of attention. Huber's work is so untrustworthy and incomplete that a serious reader would be forced to check every source and do background reading on every topic discussed before being able to evaluate the worth of Huber's analysis and proposals.

A reader who sets aside Huber's writings as not worth the effort will encounter no shortage of legitimate scholars on these subjects who enjoy strong reputations and whose writings are not plagued by the kinds of flaws that permeate Huber's work. For example, leading law-and-economics scholars from the University of Chicago, such as professors Richard A. Epstein and William M. Landes, in conjunction with their former colleague and now federal court of appeals Judge Richard A. Posner, have subjected the tort system to a rigorous and critical analysis, without resorting to factual or analytical misrepresentation, omission, or distortion.<sup>375</sup> Yale law professor George L. Priest also has authored a large body of tort law

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374. See Note, *The Intended Application of Federal Rule of Civil Procedure 11: An End to the "Empty Head, Pure Heart" Defense and a Reinforcement of Ethical Standards*, 41 VAND. L. REV. 343 (1988).

375. Important writings of Professor Epstein include: Richard A. Epstein, *A Theory of Strict Liability*, 2 J. LEGAL STUD. 151 (1973); Richard A. Epstein, *Causation and Corrective Justice: A Reply to Two Critics*, 8 J. LEGAL STUD. 477 (1979); Richard A. Epstein, *Defenses and Subsequent Pleas in a System of Strict Liability*, 3 J. LEGAL STUD. 165 (1974); Richard A. Epstein, *Intentional Harms*, 4 J. LEGAL STUD. 391 (1975); Richard A. Epstein, *Nuisance Law: Corrective Justice and Its Utilitarian Constraints*, 8 J. LEGAL STUD. 49 (1979); Richard A. Epstein, *Pleadings and Presumptions*, 40 U. CHI. L. REV. 556 (1973); Richard A. Epstein, *Products Liability as an Insurance Market*, 14 J. LEGAL STUD. 645 (1985); Richard A. Epstein, *The Historical Origins and Economic Structure of Workers' Compensation Law*, 16 GA. L. REV. 775 (1982).

Important writings of Judge Posner include: RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* (3d ed. 1986); Richard A. Posner, *A Reply to Some Recent Criticisms of the Efficiency Theory of the Common Law*, 9 HOFSTRA L. REV. 775 (1981); Richard A. Posner, *A Theory of Negligence*, 1 J. LEGAL STUD. 29 (1972); Richard A. Posner, *Can Lawyers Solve the Problems of the Tort System?*, 73 CAL. L. REV. 747 (1985); Richard A. Posner, *Some Uses and Abuses of Economics in Law*, 46 U. CHI. L. REV. 281 (1979); Richard A. Posner, *Strict Liability: A Comment*, 2 J. LEGAL STUD. 205 (1973).

Important writings of Professor Landes and Judge Posner include: WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF TORT LAW* (1987); William M. Landes & Richard A. Posner, *A Positive Economic Analysis of Products Liability*, 14 J. LEGAL STUD. 535 (1985); William M. Landes & Richard A. Posner, *An Economic Theory of Intentional Torts*, 1 INT'L REV. L. & ECON. 127 (1981); William M. Landes & Richard A. Posner, *Causation in Tort Law: An Economic Approach*, 12 J. LEGAL STUD. 109 (1983); William M. Landes & Richard A. Posner, *Joint and Multiple Tortfeasors: An Economic Analysis*, 9 J. LEGAL STUD. 517 (1980); William M. Landes & Richard A. Posner, *Salvors, Finders, Good Samaritans, and Other Rescuers: An Economic Study of Law and Altruism*, 7 J. LEGAL STUD. 83 (1978); William M. Landes & Richard A. Posner, *The Positive Economic Theory of Tort Law*, 15 GA. L. REV. 851 (1981); William M. Landes & Richard A. Posner, *Tort Law as a Regulatory Regime for Catastrophic Personal Injuries*, 13 J. LEGAL STUD. 417 (1984).



work that has sometimes disparaged current doctrine,<sup>376</sup> as have the co-reporters for the American Law Institute's forthcoming *Restatement (Third) of Products Liability*, Cornell law professor James A. Henderson, Jr.<sup>377</sup> and Brooklyn law professor Aaron Twerski.<sup>378</sup> A wide variety of scholars have published careful evaluations of the current use of scientific and other expert testimony in our court system.<sup>379</sup>

376. See, e.g., GEORGE L. PRIEST, *THE RISE OF LAW AND ECONOMICS* (1982); George L. Priest, *Compensation for Personal Injury in the United States*, in *COMPENSATION FOR PERSONAL INJURY IN SWEDEN AND OTHER COUNTRIES* (Carl Oldertz & Eva Tidefelt eds., 1988); George L. Priest, *The Disappearance of the Consumer from Modern Products Liability Law*, in *THE FRONTIER OF RESEARCH IN THE CONSUMER INTEREST* 771 (E. Scott Maynes ed. 1986); George L. Priest, *A Theory of the Consumer Product Warranty*, 90 YALE L.J. 1297 (1981); George L. Priest, *Measuring Legal Change*, 3 J.L. ECON. & ORG. 193 (1987); George L. Priest, *Modern Tort Law and Its Reform*, 22 VAL. U. L. REV. 1 (1987); George L. Priest, *Modern Tort Law and the Current Insurance Crisis*, 96 YALE L.J. 1521 (1987); George L. Priest, *Punitive Damages and Enterprise Liability*, 56 S. CAL. L. REV. 123 (1982); George L. Priest, *Puzzles of the Tort Crisis*, 48 OHIO ST. L.J. 497 (1987); George L. Priest, *Strict Products Liability: The Original Intent*, 10 CARDOZO L. REV. 2301 (1989); George L. Priest, *The Best Evidence of the Effect of Products Liability Law on the Accident Rate: Reply*, 91 YALE L.J. 1386 (1982); George L. Priest, *The Insurance and Antitrust Suits and the Public Understanding of Insurance*, 63 TUL. L. REV. 999 (1989); George L. Priest, *The Invention of Enterprise Liability: A Critical History of the Intellectual Foundations of Modern Tort Law*, 14 J. LEGAL STUD. 461 (1985); George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1 (1984).

377. See, e.g., James A. Henderson, Jr., *Coping with the Time Dimension in Products Liability*, 69 CAL. L. REV. 919 (1981); James A. Henderson, Jr., *Design Defect Litigation Revisited*, 61 CORNELL L. REV. 541 (1976); James A. Henderson, Jr., *Expanding the Negligence Concept: Retreat from the Rule of Law*, 51 IND. L.J. 467 (1976); James A. Henderson, Jr., *Judicial Review of Manufacturers' Conscious Design Choices: The Limits of Adjudication*, 73 COLUM. L. REV. 1531 (1973); James A. Henderson, Jr., *Manufacturers' Liability for Defective Product Design: A Proposed Statutory Reform*, 56 N.C. L. REV. 625 (1978); James A. Henderson, Jr., *Product Liability and the Passage of Time: The Imprisonment of Corporate Rationality*, 58 N.Y.U. L. REV. 735 (1983); James A. Henderson, Jr., *Renewed Judicial Controversy over Defective Product Design: Toward the Preservation of an Emerging Consensus*, 63 MINN. L. REV. 773 (1979); James A. Henderson, Jr., *Why Creative Judging Won't Save the Products Liability System*, 11 HOFSTRA L. REV. 845 (1982).

378. See, e.g., Aaron D. Twerski, *From Defect to Cause to Comparative Fault—Rethinking Some Products Liability Concepts*, 60 MARQ. L. REV. 297 (1977); Aaron D. Twerski, *National Product Liability Legislation: In Search for the Best of All Possible Worlds*, 18 IDAHO L. REV. 411 (1982); Aaron D. Twerski, *Old Wine in a New Flask—Restricting Assumption of Risk in the Products Liability Era*, 60 IOWA L. REV. 1 (1974); Aaron D. Twerski, *Seizing the Middle Ground Between Rules and Standards in Design Defect Litigation: Advancing Directed Verdict Practice in the Law of Torts*, 57 N.Y.U. L. REV. 521 (1982); Aaron D. Twerski, *The Many Faces of Misuse: An Inquiry into the Emerging Doctrine of Comparative Causation*, 29 MERCER L. REV. 403 (1978); Aaron D. Twerski, *The Use and Abuse of Comparative Negligence in Products Liability*, 10 IND. L. REV. 797 (1977).

379. See, e.g., PAUL GIANNELLI & EDWARD J. IMWINKELREID, *SCIENTIFIC EVIDENCE* (1986); JACK B. WEINSTEIN, *ROLE OF EXPERT TESTIMONY AND NOVEL SCIENTIFIC EVIDENCE IN PROOF OF CAUSATION* (1987); Edward R. Becker & Aviva Orenstein, *The Federal Rules of Evidence After Sixteen Years—The Effect of "Plain Meaning" Jurisprudence, the Need for an Advisory Committee on the Rules of Evidence, and Suggestions for Selective Revision of the Rules*, 60 GEO. WASH. L. REV. 857 (1992); Margaret A. Berger, *A Relevancy Approach to Novel Scientific Evidence*, 115 F.R.D. 89 (1987); Bert Black, *A Unified Theory of Scientific Evidence*, 56 FORDHAM L. REV. 595 (1988); Ronald L. Carlson, *Policing the Bases of Modern Expert Testimony*, 39 VAND. L. REV. 577 (1986); Neil B. Cohen, *Confidence in Probability: Burdens of Persuasion in a World of Imperfect Knowledge*, 60 N.Y.U. L. REV. 385 (1985); Michael Dore, *A Commentary on the Use of Epidemiological Evidence in Demonstrating Cause-in-Fact*, 7 HARV. ENVTL. L. REV. 429 (1983); E. Donald Elliot, *Toward Incentive-Based Procedure: Three Approaches for Regulating Scientific Evidence*, 69 B.U. L. REV. 487 (1989); David L. Faigman, *Struggling To Stop the Flood of Unreliable Expert Testimony*, 76 MINN. L. REV. 877 (1992); Paul C. Giannelli, *The Admissibility of Novel Scientific Evidence: Frye v. United States, a*

Huber has published less work than any of these scholars who have analyzed the tort system, but paradoxically his fame among the informed public, fueled by the public relations juggernaut of the Manhattan Institute, seems to be greater than that of all these authors combined. It is sad to discover that a writer possessing the intellect, resources, and scholarly background of Peter Huber could publish a book so contemptuous of the reader and the truth. It is sadder still to see such work become the focus of attention that ought to be devoted to books and articles on the same topics written by legitimate scholars.

Some who have been closely associated with Huber have variously noted that he is a "polemicist" who, although he "writes a good jeremiad," also engages in a "slick sleight of hand" and reaches "large conclusions on the basis of partial or inadequate evidence."<sup>380</sup> After full review of *Galileo's Revenge* and the materials cited in many portions of it, Galileo would no doubt agree with such assessments. But the errors in Huber's factual description and legal analysis are so frequent and profound that Galileo would go further to repudiate Huber's book—on Huber's own terms—as "a catalog of every conceivable kind of error: data dredging, wishful thinking, truculent dogmatism, and, now and again, outright fraud."<sup>381</sup> Galileo would attribute the prominence of the book and its author to clever public relations, not merit, and would denigrate it as junk scholarship in search of "junk science." Such would be Galileo Galilei's retort to Peter Huber.

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*Half-Century Later*, 80 COLUM. L. REV. 1197 (1980); Green, *supra* note 61, at 643; Edward J. Imwinkelreid, *Judge Versus Jury: Who Should Decide Questions of Preliminary Facts Conditioning the Admissibility of Scientific Evidence?*, 25 WM. & MARY L. REV. 577 (1984); Edward J. Imwinkelreid, *The "Bases" of Expert Testimony: The Syllogistic Structure of Scientific Testimony*, 67 N.C. L. REV. 1 (1988); Edward J. Imwinkelreid, *The Standard for Admitting Scientific Evidence: A Critique from the Perspective of Juror Psychology*, 28 VILL. L. REV. 554 (1982-1983); Charles Nesson, *Agent Orange Meets the Blue Bus: Factfinding at the Frontier of Knowledge*, 66 B.U. L. REV. 521 (1986); Jack B. Weinstein, *Improving Expert Testimony*, 20 U. RICH. L. REV. 473 (1986); Michael C. McCarthy, Note, "Helpful" or "Reasonably Reliable"? *Analyzing the Expert Witness's Methodology Under Federal Rules of Evidence 702 and 703*, 77 CORNELL L. REV. 350 (1992).

380. See *supra* text accompanying notes 31, 94, 98.

381. HUBER,  *GALILEO'S REVENGE*, *supra* note 5, at 3.