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# In Support of Huber

Jon F. Merz\*

This is a review of two reviews of Peter Huber's GALILEO'S REVENGE.<sup>1</sup> One (hereafter Nolan & Ursin), was recently published in SCIENCE.<sup>2</sup> Another (hereafter Field), appeared in the last issue of RISK.<sup>3</sup> These reviews beg for a response insofar as, in my opinion,<sup>4</sup> they miss Huber's point.

Opening the courts to any and all "experts," leaving it to the jury to "sort it all out," leads to inconsistency and sometimes a miscarriage of justice. Huber's fix is straight forward: He proposes more strict and consistent judicial oversight of experts, whereby expert testimony is limited to that "founded on theories, methods, and procedures 'generally accepted' as valid among other scientists in the same field."<sup>5</sup> As Huber himself points out, some courts do get it right, but inconsistency unnecessarily opens the door to injustice. As I view Huber's assertion, it is that publication (or other peer review) of an expert's work should be the benchmark of acceptability to the scientific community as well as to the courts.

Because judges and juries generally are not able to assess the scientific validity and integrity of research, external peer review should be a gatekeeper for — or at least a measure of the weight to be accorded — "expert" testimony. If an "expert" has sidestepped such quality assurance, why should the courts pay heed?

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<sup>1</sup> HUBER, GALILEO'S REVENGE: JUNK SCIENCE IN THE COURTROOM (1991).

<sup>2</sup> Nolan & Ursin, *Science and Tort Law*, 254 SCIENCE 1663 (December 13, 1991).

<sup>3</sup> Field, 3 RISK 181 (1992).

<sup>4</sup> See also, Merz, IEEE Spectrum, July, 1992, at 12 for a more thorough review.

<sup>5</sup> HUBER, *supra* note 1, at 14.

Field's criticism is that we need "more effective strategies for demonstrating that such 'science' is... junk...." Peer review is available to all who submit their work to leading journals, and it seems incumbent upon all would-be experts to prove the scientific merit of their research. Indeed, I would go so far as to presume the irrelevance of testimony not supported by prior peer review and publication. While this may keep the rare Galileo off the stand, it likewise prevents much-too-prevalent pseudoscientists from receiving an imprimatur for stretching the limits of scientific knowledge — and reality.

Surely, taking an agnostic approach to evidence does not promote fairness and equity. Indeed, withholding potentially relevant evidence from a jury, if "patronizing" in Field's view, is nonetheless common. Unreliable, prejudicial or inflammatory evidence is generally withheld from juries, and the scientific method, applicable to testimony purporting to have empirical support, provides an unparalleled measure of reliability.

Hand-waving avoidance of the issue is inadequate. Nolan & Ursin state:<sup>6</sup> "Juries are not required to, and often do not, believe the plaintiff's witness...." The million dollar question is: How *often* is "often?"<sup>7</sup> The concept of fairness upon which our law is founded requires that citizens be able to understand their legal obligations so that they may behave accordingly. The fact that "junk science" may be relied upon by the courts to delimit legal obligations can only make the law more erratic and unpredictable. The plaintiffs' bar fully understands this: The greater the uncertainty, the better the chances of getting to the jury and the greater the chances of a favorable verdict.

Compensation for injury is apparently a sine qua non of "justice" in Nolan & Ursin's eyes:<sup>8</sup> "In fact, the onerous requirements of traditional tort law that plaintiff establish negligence and causation are still very much in place in the broad array of tort cases outside the realm of products liability, and even in that realm proving that a product is

<sup>6</sup> Nolan & Ursin, 254 SCIENCE, at 1664.

<sup>7</sup> HakeI, *How Often is Often?*, 23 AMER. PSYCHOL. 533 (1968).

<sup>8</sup> Nolan & Ursin, 254 SCIENCE, at 1663.

defective is a complex, difficult, and costly task.” First, I fail to see what is so “onerous” in having to prove that someone committed a wrong causing compensable injury before turning to them for damages. Second, I do not understand their suggestion that causation is not required in products liability cases — perhaps excepting the peculiar version of “market share” liability adopted in New York.<sup>9</sup> Finally, if Nolan & Ursin think that it is difficult to prove that a marketed product is defective, they should contemplate premarket difficulties faced by engineers, manufacturers, sellers, and insurers, as well as their lawyers. It is no simple matter to anticipate all the ways that consumers or bystanders could be bludgeoned, impaled, strangled, burned or poisoned — and to design, label, manufacture and sell functioning, affordable products that avoid such risks.

Professors Nolan, Ursin and Field also take Dr. Huber to task for relying on “macro-anecdotes.” GALILEO’S REVENGE is based upon a telling critique of “junk science” cases. These cases highlight situations in which people went to court and recovered damages from the defendant despite the scientific fact that the defendant did not cause plaintiff’s injury. While Nolan & Ursin counter with their own anecdote, it is fatal to both critiques that the reviewers do not present a legal case in which a plaintiff recovered damages for an injury from a defendant who only later was established as the cause of that injury by peer reviewed science.<sup>10</sup>

<sup>9</sup> Hymowitz v. Eli Lilly & Co., 541 N.Y.S.2d 941, 73 N.Y.2d 487, 539 N.E.2d 1069 (1989).

<sup>10</sup> Field asserts that the problem in some cases cited by Huber is the difference in the scientific versus legal “burdens of proof.” If I comprehend Field’s assertion, it is that a plaintiff suffering from cancer some 20 years following ingestion of aspirin could bring in a witness to testify that aspirin “causes” cancer, citing a study that shows a positive relationship between aspirin ingestion and cancer, with a p value of up to 0.49. This is heresy. Research design of a study to find such a causal relationship will try to control for as many causal and confounding factors as possible. The p value is the probability that the relationship found is due to chance, and the scientific “burden of proof” sets an admittedly arbitrary level (such as 0.05) to avoid erroneous conclusions. Spurious “chance” relationships will always be found in all research. The scientific method attempts to discriminate the real from the

Huber is also criticized for failing to give the “legal system” credit, citing the revelations of a cover-up in the case of the Dalkon Shield. Yet, Huber points out that liability followed scientific findings of danger and would have occurred regardless of the court’s mistreatment of relevant factual testimony. In no case did litigation precede, much less result in, an advance in scientific knowledge. Are there any such cases? The quick might point to breast implants, certainly a hot topic. While litigation may have had a role in prompting the Food and Drug Administration to act, implants are sure to pose few of the myriad risks postulated by innumerable ambulance-chasers in advertisements fishing for potential plaintiffs.

Finally, Nolan & Ursin show incomprehension of the scientific method. Pointing to studies that indicate that as many as 1% of patients are injured by physician malpractice, they assert that more, not less, litigation is needed. It seems logical, but there is no empirical support, e.g., controlled studies of hospitals and physicians operating under different compensation laws, for this proposition. As Huber points out, despite our litigiousness, we rank only in the middle of countries with respect to safety.<sup>11</sup> Studies such as *GALILEO’S REVENGE* should be promoted. Those arguing for and implementing ever-expansive common law liability ought to have some empirical support for their grand theories, however “logical.” The courts should be open to feedback of this nature, and if they refuse to evolve, then legislatures should act.




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spurious, and the courts should attempt to achieve the same result in their “findings” of facts. If the law has a “better” method than that of science for establishing facts, then perhaps the legal method should be considered for broader application, such as in the formulation of environmental and drug regulations. This is, of course, ridiculous, inasmuch as regulatory policy would be driven by the flip of a coin. Why then should the courts be any different? I leave further exploration of this troubling issue to the future.

<sup>11</sup> *See also*, *THE LIABILITY MAZE: THE IMPACT OF LIABILITY LAW ON SAFETY AND INNOVATION* (P.W. Huber & R.E. Litan, eds. 1991) (studying the impact of liability law on safety and innovation in medical practice, in chemical and pharmaceutical manufacture, and in the automotive and general aviation industries).