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Peter W. Huber

Coping with Phantom Risks in the Courts*

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"Phantom risk" is a terribly value laden term. In contrast to risks that get nailed down, e.g. smoking and thalidomide, it describes risks that tend to hover indefinitely in the background and never seem to crystallize. Phantom risks tend to arouse suspicion, but the carcass is never found. The key to dealing with these risks lies in the procedures employed.

Federal and state courts apply different rules to scientific evidence. The Federal Rules of Evidence are looked upon, however, as the benchmark for the admission of evidence in the courts.

Before the Federal Rules of Evidence were codified, federal courts applied the *Frye* test.[1] It held that propositions garbed as science, to be presented by expert witnesses, must have attained some level of "general acceptance" in a larger scientific community. In contrast, the Federal Rules of Evidence, codified in 1975, appeared to set up looser requirements for admissible expert testimony.

After the rules were codified, some argued that *Frye* had been superseded, that "scientific" evidence was thereafter to be admitted very liberally. Another school of thought, however, held that the framers of the Federal Rules intended to leave *Frye* intact.

The rationale for a "let-it-all-in" approach is what I think of as the "Galileo" argument. Even if scientist X is the only person who believes a theory, and, even if scientist X doesn't publish or defend it publicly, his testimony should still be admitted into court. Someone has to be "first," after all. If evidence is excluded, some important truths will be lost. Scientists such as X may be dismissed as mavericks or "out of the

* Based on a presentation at an October 1994 conference in Concord, NH. Jennifer A. Kispert & Adam C. Solomon prepared this summary.

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1 Frye v. U.S., 293 F. 1013 (D.C. Cir. 1923).

mainstream" but may still be right. The consensus may prove wrong. However, potential benefits of let-it-all-in procedures must be weighed against potential costs of accepting bad science. When bad science is admitted, and falsehoods are certified by the judicial process as truths, positive harm can result.

The ultimate "science court" in the U.S. is the U.S. Supreme Court. There are no scientists on it. Yet the Court nonetheless defines "science" through rules of evidence that have to be broad enough to apply to everything from psychiatric evidence to whether creationism is science or religion.

The Supreme Court recently addressed such issues in *Daubert.*[2] The case involved the morning sickness drug, Bendectin, used by some 30 million pregnant women between 1956 and 1983. In the 1970's, an Australian physician, William McBride, who played a role in publicizing the thalidomide tragedy, claimed to have found from tests on rabbits, that Bendectin was a weak teratogen (could cause limb defects in fetuses), though not as bad as thalidomide. McBride's claims were publicized on the front page of the National Enquirer and led to a cascade of litigation. Thousands of claims were consolidated into a class action. Although the FDA reaffirmed the safety of Bendectin, citing numerous epidemiological studies, some researchers still claimed a weak association with birth defects.

The fundamental question addressed in *Daubert* was: What standard should federal courts use in deciding whether to admit such testimony, outside the mainstream of science and unpublished in any scientific journal? What did the new Federal Rules of Evidence require? "Let it all in" or something more limited?

Spin-doctors from both sides claimed victory after the Supreme Court handed down its *Daubert* decision. The opinion discusses the meaning of "scientific knowledge" — and how to distinguish "scientific knowledge" from other forms of knowledge, ignorance or superstition. *Daubert* discusses factors that federal judges should consider in deciding whether proffered expert testimony should be admitted into court. It holds that judges may look to validation, peer review, potential

2 Daubert v. Merrell Dow Pharmaceuticals, 113 S.Ct. 2786 (1993).

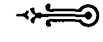
error, general acceptance, testability and falsifiability. However, dissenting Justices Rehnquist and Stevens argued that this would have federal judge inappropriately performing as "amateur scientists."

Cases decided in the aftermath of *Daubert* generally read the Supreme Court decision as maintaining a reasonably strict standard for what constitutes "scientific knowledge." With regard to Bendectin, itself, most courts have continued to exclude the types of evidence offered in *Daubert.* Toxic tort cases have excluded plaintiffs' evidence, 9 to 2. In traditional tort cases, by contrast, e.g. car accidents, federal courts have been willing to admit most scientific evidence. DNA evidence has been consistently admitted, but psychiatric evidence has been viewed more skeptically.

The underlying debate is still very much alive. It continues to turn on the comparative risks of false positives and false negatives. What will we lose by excluding evidence because we're too skeptical; what will we lose by being too credulous?

This is not a Constitutional debate about the right to jury trial. *All* rules of evidence exclude evidence from juries. The judge's role is to make sure only reliable, probative evidence is presented. Nor is this a broad debate about freedom of speech or of scientific inquiry. Individual scientists can still say what they want or study what they like. They are limited only in what they can say before juries in civil and criminal trials. Free speech and scientific progress will not be stifled by enforcing serious standards for science in this limited forum.

The *real* debate is to what extent scientists will be required to validate their claims with other scientists before peddling them in court. Requiring scientists to write down their claims and expose them to scientific peers for possible rejection, before offering them in court, is not suppression. It is a vindication of the scientific process.[3]



[3] Subsequent to Dr. Huber's talk, the U.S. Court of Appeals, on remand, reconsidered plaintiffs' evidence in *Daubert.* Having done so, it again concluded that the evidence should not be admitted. 43 F.3d 1311 (9th Cir. 1995). [Ed.]

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