

1-1-1997

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Recommended Citation

Heather C Devine, "Science at the Bar: Law, Science and Technology in America" (1997) 6 Dal J Leg Stud 369.

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Science at the Bar: Law, Science, and Technology in America

Sheila Jasanoff

Cambridge: Harvard University Press, 1995, 285 pp.

Reviewed by Heather C. Devine[†]

Science, scientists, and Scientism pervade North American courtrooms in a confluence of biases and misperceptions. From the specific role of science in the courtroom to the broader issue of science within the legal system, these concepts have wielded unfettered influence and caused many negative repercussions. Beneficial and clinically safe anti-nausea drugs such as Benadryl have been declared teratogens and rendered unavailable without replacement; pseudo-scientific methodologies such as hypnosis have been used to “improve” the faulty memories of witnesses; and complex statistical analyses have been creatively “re-analyzed” to “prove” causation in toxic tort suits.

In light of the tremendous influence of science within the law and the serious repercussions of its misuse, Sheila Jasanoff takes this opportunity to carefully detail these issues. While her analysis is detailed, it is also sufficiently broad to provide the reader with a comprehensive understanding. Her analysis encompasses such diverse concepts as the envelopment of novel (and mostly unaccepted) scientific evidence into legal precedence to “the relationship between the judiciary’s analysis of science and the overall clarity and consistency of judicial rule-making.”¹

The author begins, in Chapter One, with a discussion of “The Intersections of Science and Law” where a contrast and comparison of the two disciplines provides the reader with an understanding of

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¹ S. Jasanoff, *Science At The Bar: Law, Science, and Technology in America*, (Cambridge: Harvard University Press, 1995) at 21.

why scientists and lawyers often appear to be working in binary opposition. While they appear to be opposed, she writes, the cultures of law are, in fact, “mutually constitutive in ways that have previously escaped systematic analysis.”² The best approach to understanding this complex relationship, she argues, is to understand “how these institutions *jointly* produce our social and scientific knowledge.”³

This approach is indispensable to any effective attempt at reform and its underlying principle is that “the law today not only interprets the social impacts of science and technology but also constructs the very environment in which science and technology come to have meaning, utility, and force.”⁴ It is here, within the underlying principle, that we see Jasanoff’s unique approach to a problem which has affected both disciplines since the seventeenth century. She applies a critical approach to science and unravels both the interpretation of science within the legal system and how that interpretation affects which aspects of science come to have influence and meaning. She relates her findings within the legal system and American society in general.

Her approach is reflected in the structure of the text. She focuses much of her attention on what is described as “the law’s construction of expertise.”⁵ She discusses how legal morals, ethics, and culture interweave to determine the substantive, procedural and stylistic aspects of science which have influence within the courtroom and, consequently, legal precedence. For example, the section on “Cultures of Expert Witnessing”⁶ illustrates how expert witnesses and their roles within a trial have become a commodity where “persuasiveness more than raw scientific credentials determines a witness’s worth.”⁷

I believe that the repercussions of her findings are tremendous. If scientific evidence is assigned legal value based on the ability of the expert witness to persuade, rather than on the scientific validity of the evidence itself, then what value should scientific evidence

² *Supra* note 1 at 8.

³ *Ibid.* at 8.

⁴ *Ibid.* at 16.

⁵ *Ibid.* at 42-68.

⁶ *Ibid.* at 45-52.

⁷ *Ibid.* at 46.

actually be assigned? If it is evaluated with the same scrutiny, on the same terms as other evidence generally, should scientific evidence be differentiated at all? Perhaps not, one might conclude. However, it is undeniable that scientific evidence is generally accorded more significance and more validity by triers of fact. Therefore, although it is not subjected to additional or evaluative scrutiny, one is left with evidence that is generally accorded higher significance and validity and is differentiated from general evidence on the basis of its association with the constructs embodied in the scientific method. One must conclude that the result of this process is evidence that is considered to be *more reliable* even though the very aspect which makes it reliable is never evaluated. I agree with Jasanoff's call for reform in which she argues that inherent biases and misperceptions within the legal system must be overcome. The alternative is to relegate scientific evidence to commonality, on par with other kinds of evidence.

The examination of science, scientific evidence, and toxic torts is also well researched and well argued. Jasanoff points to several areas where the legal interpretation of scientific evidence has skewed evidence to suit a variety of legal purposes. For example, the issue of junk science in the court room, where scientists reinterpret data to suit their hypotheses, and the courts' continual demonstration of a fundamental lack of understanding of causative analyses provide additional support for her call for reform. Finally, she provides an elaborate discussion on the relationship of science to the state with regard to policy making, budget expenditures, and the technical discourse of government.

The timeliness and relevance of this publication for a Canadian reader outweigh its purely American focus. Canadian lower courts continue to struggle to find adequate tests to control the admission of novel scientific evidence, such as evidence of DNA and statistical probability analyses. Jasanoff's discussion of causative factors and demand for reform provides a general overview, albeit from an advanced perspective, of a legal system struggling with important issues; issues that are also affecting Canada's legal system. An indication of the advanced perspective present in the United States regarding science and the law can be found in the recent United States Supreme Court announcement of new criteria by which

judges ought to distinguish between valid and invalid evidence.⁸ Contrast this to the Supreme Court of Canada's latest relevant decision⁹ where it applied a test that has barely changed in seventy years (pre-dating even the invention of antibiotics). It is very apparent that this publication has much to offer critics of the role and treatment of science within Canada's legal system; a legal system on the cusp of change.

⁸ *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 113 S.Ct. 2786 (1993).

⁹ *R. v. Mohan*, [1994] 2 S.C.R. 9.