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SCIENCE AT THE BAR: LAW, SCIENCE, AND TECHNOLOGY IN AMERICA

By Sheila Jasanoff.[1]
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Pp. 285. $29.95 (hard).

The recent double-murder trial and resulting acquittal of football legend O.J. Simpson further inflamed an already heated debate among practitioners, scholars, commentators, and laymen over the current state of the American legal system, and specifically over the roles of race, money, cameras, and science in the courtroom. Sheila Jasanoff tackles the last of these topics in her new book, *Science at the Bar: Law, Science, and Technology in America*. In the so-called "trial of the century,"[2] major controversies surrounded the role of expert testimony, the use (or misuse) of forensic evidence, and the reliability of DNA testing. Although she discusses these issues, Jasanoff wisely mentions the Simpson trial only in passing; instead, she surveys a variety of themes involving science and the law, incorporating topics ranging from toxic torts to euthanasia to the regulation of biotechnology.

Science at the Bar examines two distinct traditions of science policy analysis. The first, known as "science in policy" (p. 5), involves the use of science and technology to help aid lawyers, judges, and jurors, and includes the selection and use of expert witnesses, the scientific education of judges and jurors, and the use of scientific and technical evidence (p. 5). In short, these are examples of what might best be called "science *in* the court." The other traditional analysis concerns the role of "science *at* the court," and is formally known as "policies for science" (p. 6). Here, the author notes, the inquiry centers around "whether the judiciary is institutionally capable . . . [of making] policy on issues such as biotechnology, nuclear power, or new medical and reproductive technologies" (p. 6). While there are arguably similarities between the two traditions, one of the book's flaws is that it tries to tackle both at once, instead of completely analyzing one or the other.

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1. Sheila Jasanoff is Professor and Chair of the Department of Science and Technology Studies at Cornell University. She has written many books and articles, including: THE FIFTH BRANCH: SCIENCE ADVISERS AS POLICYMAKERS (1990); *What Judges Should Know About the Sociology of Science*, 77 JUDICATURE 77 (1993); *Biology and the Bill of Rights: Can Science Reframe the Constitution?*, 13 AM. J.L. & MED. 249 (1987); *Science, Technology, and the Limits of Judicial Competence*, 68 A.B.A. J. 1094 (1982) (with Dorothy Nelkin).

2. *See, e.g.*, Lorraine Adams & Serge F. Kovaleski, *The Best Defense Money Could Buy: Well-Heeled Simpson Legal Team Seemed One Step Ahead All Along*, WASH. POST, Oct. 8, 1995, at A1.

Consequently, the study is somewhat unfocused, and the book's conclusion is inconsequential and vague.

One of the book's central theses is that the legal system has played an important role in developing the public's perceptions of modern science and technology, and that therefore the role of science and technology in America cannot be fully understood separately from the very legal process which nurtures it (p. xvi). It has long been argued that science and law are inevitably incompatible because "'science' [is] committed to the truth, while the law is shown as intent on winning adversarial games at any cost" (p. 6). Jasanoff disagrees, contending that the two cultures can and do coexist, and that they jointly influence the American legal, social, and scientific landscape.

For those readers who have done even a cursory study of this area, Jasanoff's assertion may seem intuitive or obvious. Yet, Jasanoff does posit an interesting argument when she claims that, when it comes to science and technology, the courts are not limited to acting retrospectively (pp. 11-12), but often lead the way. In many instances, for example, scientific "research is undertaken only when a lawsuit points to the existence of a previously unsuspected causal connection" (p. 50). As an example, Jasanoff cites a June 1994 breast implant study published in the *New England Journal of Medicine*, months *after* Dow Corning announced a multi-million dollar settlement (p. 50). Thus, scientific research often lags behind litigation, and legal results may be handed down prior to the formulation and announcement of necessary scientific conclusions (p. 50). As the author states, "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" (p. 16).

Various solutions have been proposed to address the confusion that inevitably results from the interaction between the highly specialized fields of law and science. Engineer Arthur Kantrowitz proposed one solution in 1967: a science court that would "separat[e] facts from policy" (p. 65) and address only the former.[3] Concerned that the persuasiveness of expert witnesses had become more influential to legal fact-finding than the underlying scientific evidence (p. 51), proponents felt that the science court's separation of issues would prevent individual scientists from imposing their political agendas and value systems on the rest of society (p. 65). The judges and other administrators in the science court would be highly trained, scientifically literate, and therefore capable of rendering sound decisions on scientific matters (p. 219). While the idea of a science court has been

3. A number of commentators have evaluated this idea. *See, e.g.*, Arthur Kantrowitz, *The Science Court Experiment*, 7 JURIMETRICS J. 332 (1977); Albert R. Matheny & Bruce A. Williams, *Scientific Disputes and Adversary Procedures in Policy-Making: An Evaluation of the Science Court*, 3 LAW & POL'Y Q. 341 (1981); Arthur Kantrowitz, *A Response to Matheny and Williams*, 3 LAW & POL'Y Q. 365 (1981); Albert R. Matheny & Bruce A. Williams, *A Reply*, 3 LAW & POL'Y Q. 369 (1981).

abandoned by most scholars today as impracticable and unworkable (p. 65), Jasanoff's more modest proposal to "educate judges, lawyers, and scientific experts in each other's modes of reasoning and discourse" (p. 68) seems anti-climactic; it stresses the value of incremental improvement but suggests no catalyst for this change.

Most memorable about *Science at the Bar* are the individual cases and controversies conscientiously chosen by the author. For example, in the chapter entitled "Legal Encounters with Genetic Engineering," Jasanoff introduces the reader to the landmark case *Diamond v. Chakrabarty*,[4] in which the Supreme Court first allowed a scientist to patent a human-made bacterium. In the chapter on "Family Affairs," she revisits the "Baby M" trial,[5] which greatly increased public awareness of surrogacy and its potential legal implications (pp. 177-78), as well as the 1967 case of *Gleitman v. Cosgrove*,[6] in which "the New Jersey Supreme Court was asked to extend malpractice principles to a claim arising from an alleged failure of prenatal counseling" (p. 172). The chapter on "Definitions of Life and Death," discusses, among other cases, *Cruzan v. Director, Missouri Department of Health*,[7] in which "the Supreme Court ruled that the State . . . could lawfully deny a request by Cruzan's parents" to permit her to die by discontinuing life-sustaining treatment (p. 183). Finally, the chapter on "The Law's Construction of Expertise" examines the Supreme Court's 1993 decision in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,[8] which reaffirmed the discretionary power of judges to assess and screen scientific evidence (p. 63).

This sampling of cases from *Science at the Bar* illustrates both the richness and randomness of the book. The work is far from a complete study of the topic presented. For example, while the subtitle suggests a discussion of how the courts deal with technology, there is little in the book about computers, computer software, or the Internet. The author should have given at least a brief mention to the many issues which have recently been litigated in the courts in cases involving technology companies, notably IBM,[9]

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4. 447 U.S. 303 (1980).
5. *See In re* Baby M, 537 A.2d 1227 (N.J. 1988).
6. 227 A.2d 689 (N.J. 1967).
7. 497 U.S. 261 (1990).
8. 509 U.S. 579 (1993).
9. *See* United States v. IBM Corp., 857 F. Supp. 1089 (S.D.N.Y. 1994) (seeking termination of consent decree entered into in 1956 after the United States brought suit against IBM for antitrust violations).

Lotus,[10] Apple Computer and Microsoft.[11] While computer software and electronic communication cases admittedly bring up legal issues beyond the scope of the book (e.g., patent, copyright, antitrust, and First Amendment), a modern discussion of law and technology in America is incomplete without them.

In the book's conclusion, the author identifies three vague solutions to address the problems inherent in the interplay between law and science: (1) courts should defer more to external sources of scientific authority; (2) the legal system's established mechanisms for dealing with technical questions should be strengthened; and (3) more alternatives to litigation should be sought (p. 218).

Unfortunately, Jasanoff proposes little in the way of concrete solutions. She dismisses the concept of a science court and cautiously suggests the possibility "that judges should learn to 'think like scientists' and should use [uniform] criteria to determine whether the evidence before them is truly scientific" (p. 219); they should also consult handbooks that summarize scientific knowledge (p. 219). These proposals lead to further questions: What type of scientist should a judge "learn to think like?" Who will write such handbooks? How often will they be updated? Similar issues arise when Jasanoff considers her third solution. As an alternative to changing the judicial process, Jasanoff suggests substitutes for litigation, such as the use of policymaking bodies and committees (p. 223). Here as well, there are great political concerns regarding who would serve on such committees, how often they would meet, and so on.

In the end, Jasanoff justifies her approach by hypothesizing that a "constructivist approach to the study of law, science, and technology offers distinctive insights into the reciprocal relationship of natural knowledge and social justice in American society" (p. 224). While it is not entirely clear what this academic jargon means, the author seems quite simply to invite the legal establishment to diversify its methods, goals, and subjects of inquiry when facing conflicts dealing with science and technology. As a result, while *Science at the Bar* is probably not a very useful book for practitioners or academics, it does provide a nice overview for the curious student of American law, science, and culture.

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10. *See* Lotus Dev. Corp. v. Borland Int'l, 49 F.3d 807 (1st Cir. 1995) (holding that the Lotus 1-2-3 command hierarchy is uncopyrightable), *aff'd by an equally divided Court*, 116 S. Ct. 804 (1996). The Supreme Court decision was reached after the book was published.

11. *See* Apple Computer v. Microsoft Corp., 35 F.3d 1435 (9th Cir. 1994), *cert. denied*, 115 S. Ct. 1176 (1995). For a brief discussion of the litigation, see Rodger R. Cole, *Substantial Similarity in the Ninth Circuit: A "Virtually Identical" "Look and Feel?"*, 11 SANTA CLARA COMPUTER & HIGH TECH. L.J. 417 (1995).