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## Introduction to the Symposium

Margaret A. Berger

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## SCIENCE FOR JUDGES V INTRODUCTION

*Margaret A. Berger\**

Once again, the *Journal of Law and Policy* is publishing extended versions of papers relating to science and law that were presented at a conference for federal and state judges.<sup>1</sup> The conference, which took place at Brooklyn Law School on April 1 and 2, 2005, was the fifth in a series of Science for Judges programs funded by the Common Benefit Trust established in the Silicone Breast Implant Products Liability Litigation. It was held under the auspices of Brooklyn Law School's Center for Health, Science and Public Policy in collaboration with the Federal Judicial Center, the National Center for State Courts, and the Committee on Science, Technology and Law of the National Academies of Science.

Science for Judges V dealt with two very different sets of questions that arise in connection with science in the courtroom. The first day's session focused on Risk Assessment, a topic that confronts judges when ruling on expert proof of causation in toxic tort cases. The second day's session considered issues relevant to the Availability of Data, a subject of importance to the effective functioning of both science and the law—research depends on data

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\* Suzanne J. and Norman Miles Professor of Law, Brooklyn Law School. Professor Berger is the Director of the Science for Judges Program.

<sup>1</sup> Papers from previous Science for Judges programs can be found in 12 J.L. & POL'Y 1, 1-53 (2003) (papers discussing the practice of epidemiology and the science produced by administrative agencies); 12 J.L. & POL'Y 485, 485-639 (2004) (papers discussing toxicology and epidemiology); 13 J.L. & POL'Y 1, 1-179 (2005) (papers discussing the integrity of scientific research and forensic evidence in criminal proceedings); and 13 J.L. & POL'Y 499-647 (2005) (papers discussing Agent Orange and human behavior research). All papers are available in electronic form at <http://brooklaw.edu/centers/scienceforjudges/papers.php>.

and so does litigation.

In the first essay dealing with causation, Professor Gary Marchant predicts that within the next decade toxic tort litigation will be transformed by the availability of genetic information.<sup>2</sup> His discussion focuses on two different types of data that have the potential to radically transform the process of proving causation: 1) data on the genetic susceptibility of individual plaintiffs and 2) genetic biomarkers of exposure and effect. Professor Marchant examines the extent to which these types of evidence have been introduced in judicial proceedings to date, and analyzes the complex scientific and legal issues that must be resolved before the legal system can utilize this information to make the outcomes of toxic tort litigation more accurate and fair. Professor Marchant's essay provides judges and lawyers with a valuable preview of the "doctrinal, ethical and institutional dilemmas" they will have to confront in the near future.<sup>3</sup>

Just how important a role genetic information might play in establishing causation becomes evident in reading Dr. Joseph Rodricks' paper which concludes that the problem of individual disease causation has to date received inadequate treatment in the scientific literature.<sup>4</sup> After describing the objectives and assumptions underlying regulatory risk assessments and examining how toxicological and epidemiological information is used, he explains why the results of such assessments cannot be extrapolated to prove disease causation in individuals. Although he sets out an analytical model for evaluating causation in individuals, Dr. Rodricks cautions that much less of a scientific consensus exists about appropriate scientific approaches than in the regulatory context. He also notes that it is difficult to imagine how plaintiffs could develop the evidence required by his model with regard to chemicals that have not yet been studied. He concludes by calling on the National Academies of Science to undertake a study of general and specific causation that would clarify what

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<sup>2</sup> Gary E. Marchant, *Genetic Data in Toxic Tort Litigation*, 14 J.L. & POL'Y 7, 8 (2006).

<sup>3</sup> *Id.* at 37.

<sup>4</sup> Joseph V. Rodricks, *Evaluating Disease Causation in Humans Exposed to Toxic Substances*, 14 J.L. & POL'Y 39, 63 (2006).

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types of scientific evidence are relevant to prove causation in judicial proceedings.

A totally different approach to issues relating to proof of causation is offered by Lisa Heinzerling, a law professor, who finds that the Supreme Court's emphasis on guarding against unreliable scientific evidence has led to numerous problems.<sup>5</sup> She faults the Supreme Court for opening the door to what she terms judicial "junk science." As examples of the courts' disregard for standard scientific practices, she discusses opinions that refuse to accept a "weight of the evidence" approach, reject animal studies and linear dose-response models, and exclude epidemiological studies showing a relative risk of less than 2.0.<sup>6</sup> Many additional "doubts" about *Daubert* are voiced in Professor Heinzerling's essay. Her core concern is that evidentiary rulings under *Daubert* have eroded substantive standards, particularly in toxic tort cases. She concludes that the courts' preoccupation with, and struggles to master, complex issues regarding scientific expertise have led them to ignore the subjects with which the law should be concerned.

Professors Eleanor Singer's and Alan Morrison's essays examine the issues that arise when society's ever growing needs for data come up against other competing claims.<sup>7</sup> After an overview of recent federal legislation that affects access to research data,<sup>8</sup> Professor Singer turns to the complex policy issues created by the explosion in technology. On the one hand, more information than ever before is being collected by governmental agencies. This information is of vital interest to researchers and is needed to assist the government in designing, planning and implementing its policies. On the other hand, public concerns

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<sup>5</sup> Lisa Heinzerling, *Doubling Daubert*, 14 J.L. & Pol'y 65, 65-66 (2006) (she first discusses the two Supreme Court opinions that established new guidelines for expert testimony based on scientific knowledge, *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993) followed by *General Electric v. Joiner*, 522 U.S. 136 (1997)).

<sup>6</sup> *Id.* at 68-74.

<sup>7</sup> Eleanor Singer, *Access to Research Data: Reconciling Risks and Benefits*, 14 J.L. & Pol'y 85 (2006); Alan B. Morrison, *Balancing Access to Government-Controlled Information*, 14 J.L. & POL'Y 115, 116 (2006).

<sup>8</sup> Singer, *supra* note 7, at 89-91.

about privacy and confidentiality have increased as advances in technology have made intrusions into sensitive, personal data ever more possible. After Professor Singer explains the costs and benefits that must be balanced, she discusses ways in which the confidentiality of research data can be safeguarded by techniques such as data masking and creating synthetic data.<sup>9</sup> It is quite clear from Professor Singer's discussion that the trade-offs between making data freely available and protecting confidentiality are complex and costly, and that the courts will of necessity be involved in overseeing these choices. The decisions will have significant consequences for researchers, litigants and our citizenry.

Professor Morrison's essay examines a variety of procedures that may enable a requester to obtain information from different branches of the government.<sup>10</sup> After discussing issues that arise under the Freedom of Information Act,<sup>11</sup> Professor Morrison examines the newer "Data Quality" laws,<sup>12</sup> and then turns to information sought in litigation, considering issues such as the impact of *Daubert*, and the proper use of protective orders.<sup>13</sup> Throughout, Professor Morrison's emphasis is on the balancing of competing interests that ultimately determines whether the requested data will be disclosed. Seeing examples of this balancing in the very different contexts which Professor Morrison considers enables the reader to appreciate the many factors that decision makers take, or ought to take, into account.

Professor Gillian Hadfield's essay on data should be of great interest to anyone concerned with the workings of the courts.<sup>14</sup> Her research examines the collection of data pertaining to the legal system. She concludes that far too few data are available to allow for a scientific, systematic assessment of how our federal and state

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<sup>9</sup> *Id.* at 109-11.

<sup>10</sup> Morrison, *supra* note 7, at 116-23.

<sup>11</sup> *Id.* at 116-20.

<sup>12</sup> *Id.* at 120-23.

<sup>13</sup> *Id.* at 132-36.

<sup>14</sup> Gillian K. Hadfield, *Judging Science: An Essay on the Unscientific Basis of Beliefs about the Impact of Legal Rules on Science and the Need for Better Data about Law*, 14 J.L. & POL'Y 137 (2006).

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judicial systems function, and notes the irony of judges enforcing strict standards for the admission of scientific expert testimony while they lack information about the impact of their practices. She poses a number of important questions about the consequences of the *Daubert* opinion that have not been empirically studied.<sup>15</sup> The problems in data collection that Professor Hadfield identifies make it impossible to carry out such an investigation.<sup>16</sup> Professor Hadfield illustrates the frustrations of attempting empirical research by describing her attempt to validate claims that federal trials are vanishing.<sup>17</sup> She finds that our knowledge about trial rates is too slim to support conclusions on how our legal system could be improved, and cautions that the difficult questions about the effects of *Daubert* cannot be reliably answered unless we find a way to collect and analyze the relevant data instead of relying on anecdotes and personal experience.

In the last essay in this collection, Professor Claire Kelly returns to a topic that was covered at a previous Science for Judges conference<sup>18</sup> and is touched on by some other contributors to this volume<sup>19</sup>—the role of *Daubert* in the regulatory arena.<sup>20</sup> After discussing a number of ways in which a *Daubert* analysis could be inserted into administrative decision-making,<sup>21</sup> Professor Kelly explains why she thinks such a paradigm shift would be “unwarranted, unclear, and unhelpful.”<sup>22</sup> Professor Kelly fears that “Daubertization” would undermine administrative functioning and would undo some of the gains achieved after the Supreme Court’s decision in *Chevron U.S.A. v. National Resources Defense Council, Inc.*<sup>23</sup> opened the door to greater administrative

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<sup>15</sup> *Id.* at 138-39.

<sup>16</sup> *Id.* at 140-47.

<sup>17</sup> *Id.* at 137-62.

<sup>18</sup> Wendy E. Wagner, *Importing Daubert to Administrative Agencies Through the Information Quality Act*, 12 J.L. & POL’Y 589 (2004).

<sup>19</sup> Morrison, *supra* note 7, at 130-31.

<sup>20</sup> Claire R. Kelly, *The Dangers of Daubert Creep in the Regulatory Realm*, 14 J.L. & POL’Y 165 (2006).

<sup>21</sup> *Id.* at 174-90.

<sup>22</sup> *Id.* at 190.

<sup>23</sup> 467 U.S. 837 (1984).

flexibility. Like the *Chevron* shift which Professor Kelly elucidates, a *Daubert* shift would be costly and lead to years of uncertainty without the positive pay-off that *Chevron* ultimately provided. The article bolsters this conclusion by examining the variety of ways in which *Daubert* has been invoked in administrative law cases to date.<sup>24</sup>

These brief descriptions of the essays that follow offer but a glimpse of the complex, cutting-edge issues that are addressed. I hope they whet the reader's appetite to grapple with the essays themselves.

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<sup>24</sup> Kelly, *supra* note 20, at 198-209.